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Original Communications.

ARTICLE I.—*On the Origin, History, and Treatment of Trichina Spiralis.**

IN conformity to a usage established long ere this, I am before you, to-day, as your retiring presiding officer for the year just passed; and I beg your attention for a few moments, while I introduce some remarks upon the origin, history and treatment of a disease of which there is but little written and comparatively less known, in this our country, by the medical profession generally.

The disease to which I allude was nosologically arranged by Dr. Zenker, in 1860, is of parasitic origin, and has been called, by its discoverer, trichiniasis, from the name of the entozoon producing it, the trichina spiralis. The generic portion of the name of this animal is derived from a Greek word, meaning or referring to a hair, in allusion to its filliform shape; the specific part, spiralis, from the Latin word spiralis, indicating the spiral watch-spring-like form which it assumes when curled within its cyst.

The trichina may very properly be described as a small, slim worm, measuring at adult age from $\frac{1}{60}$ to $\frac{1}{30}$ of an inch in length,

* A paper read before the Fox River Valley Med. Association, and published by request.

and from $\frac{1}{16}$ to $\frac{1}{8}$ of an inch thick, semi-transparent, with an attenuated end, which we shall describe as its head, the other or anal end being blunt.

When at rest, they usually assume a coiled form, but, when moving through the muscular tissue, their motion is spiral or cork-screw-like, with the attenuated end foremost, and are very active in their movements. From the mouth runs a tube to a sack, and from this runs a straight tube to the blunt end or anus. These seem to answer the threefold office of œsophagus, stomach, and intestine.

The females are much larger than the males. The ovaria and eggs of the females are inclosed in a long-tube lying alongside of the intestinal canal, and decreasing in size as it runs forward, and opening out at the beginning of the anterior third of the body.

The trichini, when found in its adult state, is usually inclosed in a thin, transparent capsule, lying between the sarcolemma of the primitive muscular fibre. This capsule, in process of time, frequently becomes calcareous, and in this rests the parasite for an indefinite space of time, unless sooner freed by entering the stomach of some living animal.

They are reproduced viviparously, and Virchow describes them as a bisexual parasite, he having found mature trichina, of both sexes, moving freely in the mucus of the intestines.

The first discovery of these little parasites was by Tiedeman, in 1822. Hilton, in 1832, found the pectoral muscles of an old man who died of cancer, thickly sown with minute white specks; an account of which he published in 1835 in the *London Medical Gazette*, and consequently was the first to put on record a description of what subsequently proved to be the cysts of trichina.

In 1833, James Paget, then a student at St. Bartholomew's, found what was supposed to be minute bony spicula, in dissecting a body, but on examining them with a microscope, he found each to be a cyst containing a small worm. As soon as he made known his discovery, portions of the muscles were distributed to various anatomists, and among others to Robert Owen.

In the same year, Professor Owen presented to the Zoölogical Society his memoir, containing a microscopic description of the entizone infesting the muscles of the human body; in which he

describes the worm as destitute of intestinal canal and organs of generation, and classed them in a very inferior scale among the helminthes. In the same year, Dr. Farre discovered an intestinal tube and organs of generation, which placed the worm in a higher scale of organization, and enabled him to assign it a place among the class nematodes.

In the same year, or 1835, Henry Wood, of Bristol, gave to the *London Medical Gazette* the history of a case, which he diagnosed as an attack of acute rheumatism, complicated with cough and dyspnœa. The patient was a young man, aged 22; had been sick fourteen days, the last six of which he was confined to his bed; at which time he was admitted to the Bristol Infirmary, and died the tenth day after admission, or the twenty-fourth day from attack.

Autopsy exhibited pneumonia, extensive pericarditis, and trichina in the muscles of the chest and shoulders in great numbers. The trichina were not yet encysted.

In the same year, Dr. Harrison reported six cases of trichiniasis to the *Dublin Journal*.

In 1840, Kobett and Bischoff published an account of an autopsy made at Heidelberg, of a body infested with trichina. Bischoff and Farre mistook the attenuated end of the worm for its tail, in their description of it, and consequently described the mouth as the anus.

From 1842 to 1845, observations were published in this country, by Drs. Bowditch and Wyman, of Boston, and by Mouster and Soytzer, of Copenhagen, in Denmark.

In 1851, Suschka pointed out the attenuated filiform portion of the parasite as its head, and Leuckart, Bristow and Rainey observed and demonstrated the genital organs, with other minute points of their anatomy.

In 1855, Zenker, Leuckart and Kuckinmeister experimented upon different animals, by feeding them trichinosed human flesh. Leuckart's observations were mostly made upon the dog, an animal not susceptible of trichinose infection; nevertheless he demonstrated the fact of the freeing of the trichina from their capsules, and their development to three times their primitive length, within three or four days after being taken into the stomach and intestines. He also established the fact that the worm would

readily undergo gestation, and give birth to living young, even in the stomach and intestines of the dog.

The experiments of Leuckart fully demonstrated the fact that the young trichina commence their migration from the intestine towards the muscles, as soon as they were developed; which was proved to be about the eighth day after the food was ingested, and that, in the intestines of the hog, cat, rabbit, mouse, and domestic fowl, trichina would attain their full and complete sexual development.

Pagenstrucher and Fuchs devoted many months to artificial trichinization of various animals, viz.: Mammifers, birds, cold-blooded animals, fishes, molusks, and insects. Of the mammifers, the dog was the first subject. They found, as did Leuckart and Virchow, that trichina would propagate in the dog, but would not penetrate the intestines and enter the muscles. They found that the hog, wild-boar, guinea-pig, coney, hare, cat, rat, mouse, and mole were easily infected; while in the bull, ox and cow, the trichina would propagate, but, as in the dog, would not enter the muscle. The calf, goat, sheep, stag, and roebuck were moderately susceptible, and that badgers and martins remained doubtful.

The birds experimented upon were the goose, turkey, cock, hen, pigeon, starling, crow, jackdaw, jay, peacock and turkey-buzzard.

Although they found the parasite would become sexual and increase in them, yet they found them expelled by the alvine evacuations, and in the magpies no traces of trichina could be found four days after eating the meat. In the carp, frog, salamander, crab and flesh flies, the trichina were not developed at all. In the *ducticus marginalis* of the beetle family, trichina were found in the stomach alive five days after eating trichinosed meat. The observations of Pagenstecher and Fuchs are not fully confirmed by subsequent observations; for recently, in New York, Dr. Percy has reported a case in which a family were trichinosed by eating beef, and trichina were subsequently found in the beef.

Simon also cites two cases of persons having been trichinosed by eating beef in the epidemic of Calbe, and Kupprecht reports two cases at Hettstadt, and six in the epidemic at Leipsic, from eating raw beef.

If my memory serves me, Owen mentions having found trichina in oxen and pigeons that were fed on trichinose meat; the trichina were found in the neck, wing and thighs of the pigeons, eighteen days after feeding, thus showing pretty conclusively that the trichina will pass alive the ordeal (as a writer calls it) of the gizzard of the fowl, although by him denied.

It appears to be a well settled fact that many, if not all, of the ruminating animals are subject to become trichinosed if fed on food containing the parasite, but we should not expect them as good subjects as many other animals, from the fact of their stomachs containing usually a large amount of vegetable matter, in which the trichina might become intermixed, and consequently pass with the alvine evacuations without ever reaching the mucous membrane of the stomach.

In the case reported by Dr. Percy, of New York, it appears the animal was fed at a distillery — food, in our judgment, very proper to convey the trichina to the mucous membrane of the stomach of the animal, and also very favorable for the development of the sexual organs of the parasite.

Of the other cases reported of the trichina in beef, we have no means at present of knowing how the animals were fed.

In our description here given from the various authors, we are unable to trace the known origin of the trichina fifty years back.

Now, can we for a moment harbor the opinion that this little parasite has sprung into existence within the last fifty years. True, we have no authentic history of their existence for a longer time; but does this prove that they did not exist.

Until recently, we have been taught by geologists that there were no visible signs of animal existence below the lower silurian formation of rock; but recent discoveries in Canada have found the rizopods in the Laurentian formation some 30,000 feet below the lower silurian, the fact of their not having been discovered before, it would seem was no evidence of their non-existence. So we think it is with the trichina.

We have seen it stated, that Herod of old, the man-slayer and baby-killer, who died soon after the birth of Christ, died of trichiniasis.

The author making this assertion, cites Josephus as evidence of his position. In Josephus history, sixth chapter and fifth section, in

speaking of Herod's disease, he says : "A fire glowed in him slowly, which did not so much appear to the touch outwardly as it augmented his pains inwardly ; for it brought upon him a vehement appetite to eating, which he could not avoid to supply with one sort of food or other. His entrails were also exulcerated, and the chief violence of his pains lay in his colon ; an aqueous and transparent liquor also had settled itself about his feet, and a like matter afflicted him at the bottom of his belly. Nay, further, his privy member was putrified, and produced worms ; and when he sat upright, he had a difficulty of breathing which was very loathsome, on account of the stench of his breath and the quickness of its returns ; he had also convulsions in all parts of his body, which increased his strength to an insufferable degree."

In this account of Herod's disease, given by Josephus, we find but very few, if any, symptoms which would lead us to believe his disease was that of trichiniasis. We would far sooner believe that he was troubled with a disease which attacks men in this day and age, even in our own country, who visit certain places where honest men ought not to go. At such places, they sometimes contract a disease which, if allowed to run, may cause their privy member to putrify and produce worms similar to those of Herod's, but not trichina.

Now, suppose Herod's system was infected with trichina, the worms found on his privy member were no evidence of the existence of that parasite.

The medical fraternity of that day and age had no means of seeing or detecting the parasite, as they could not be seen then any better than now, without the aid of lens ; and the ancients of Herod's time had no such lens.

The first lens of which we have any account were made of rock crystals (probably quartz), in A.D. 50, and were found by Layard, in the palace of Nimrod. The microscope was not invented until the seventeenth century, consequently no such power could have been used, to detect trichina, in the days of Herod. Nevertheless we have reason for believing that trichina existed long before Herod's time.

In the eleventh chapter of Leviticus, the Lord spake unto Moses and Aaron, saying : " Speak to the children of Israel, that these are the beasts of which ye shall not eat, viz., camel, coney, hare and swine, because they are unclean."

This order was given to Moses and Aaron, in the year of the world 1490, or 2514 years before Christ; and it is remarkable that it should have included three of the most susceptible animals to the influence of the trichina yet known. And it is not wholly clear but what the first named (the camel) may yet prove to be easily trichinized.

Now, may not trichina have been the cause of this order then given to the Israelites, they being a people whom God took special care to look after and provide for, if we believe the account given of them in Holy Writ.

Genesis, first chapter and twenty-fifth verse, reads: "And God made the beast of the earth after his kind, and the cattle after their kind, and every thing that creepeth upon the earth after his kind; and God saw that it was good."

It appears that on the sixth day, God created every thing that creepeth upon the earth. Now, assuming this to be so, and also the fact that we have no account of any living being having been created since that day, have we not good reason for believing that the trichina was created at that time, although not discovered by man until the commencement of the nineteenth century.

Of their natural sphere and abiding place, as yet, we know nothing certain; but of their accidental appearance in man, and many of the lower class of animals, we have conclusive evidence; and that they will live for a succession of years in the muscular tissue of man, and many of the lower animals, when properly inclosed in their capsules, we have no doubt.

Scoutetten cites a case where the muscles of a subject who had been infected thirteen years previously, promptly developed and gave forth young upon being swallowed by a rabbit.

Virchow gives a case in which living trichina, within calcareous capsules, were found in a patient who had been trichinosed twenty-four years previously. Although this would seem to show that they are quite at home in the muscular tissue of man, yet we are constrained to say, as before, that they are here only by accident, and that neither man nor the swine are the natural abiding place of these little parasites. They are rarely found in either, and would, in all probability, become extinct if they depended upon either for their existence. Notwithstanding, they will readily propagate when introduced into the stomach of either.

Many cases of disease, produced by eating raw trichinosed meat, are reported in Germany, and among those most noted are the following :

At Plauen there were 40 cases, and one death ; Magdeburg, Newstadt and Buckaw, about 400, with no deaths reported ; Blankenbourg, 78, with one death ; Calbe, 38, and eight deaths ; Hettstadt, 159, with 28 deaths ; and at Hedersleben, 350 cases, with 80 deaths ; making, in those few epidemics, one thousand and sixty-five cases, with one hundred and eighteen deaths, or one death in nine and a fraction over.

As among the cases occurring in this country, we would cite the following :

That of a German family, reported by Dr. Schnetter, of New York city, in 1867, in which a whole family were affected, one of whom died. They had been eating raw ham, which, on a microscopic examination, was found to contain trichina. Dr. Voss also reports three cases on board of a Bremen ship lying in New York harbor. To satisfy himself of the existence of trichina, he harpooned the deltoid muscle of the mate, in which trichina was found, and an estimate made of about 7,000 to the cubic inch.

Dr. Lathrop, of Buffalo, has reported a case, and Dr. Horr, of Dubuque, Iowa, has reported six cases, as occurring in Mane township, in 1866—that of three boys and three girls, who, on the 22nd of April, took a lunch of sandwiches, in the construction of which raw smoked ham was used. Two days after, all but one of them were attacked with diarrhoea, developing into all the symptoms of trichiniasis. Effective cathartics were given at once, which, doubtless, expelled the greater portion of the worms before they had time to multiply fatally. One subject, a girl of sixteen years, exhibited the symptoms in reversed order—lame ness of the muscles on the second, and the diarrhoea on the third day. She was more severely ill than the others ; had inflammation of the lungs and hoarseness of the voice ; and, on the 19th of June, was hardly able to walk. No cathartic was given to her, as to the others. Dr. Horr also reports nine cases in Marion, in the family of Mr. Bemis ; they were all taken ill about the first of May, after eating freely, at several times, of raw smoked ham, from four to ten days previously. Mr. Lansing ate freely from

the same ham, well cooked, and showed no symptoms of the disease. The symptoms of this disease as shown in these cases, were, diarrhoea on the second day; pain, soreness, and debility of the muscles of the limbs, on the third day, with swelling of the face; followed, on the fourth and fifth days, by swelling of the hands, then of the feet and legs, with fever of a low grade, quick pulse, furred tongue, and sleeplessness. The muscular soreness and pain, with fever thirst, tenderness of the abdomen, and profuse sweating, continued as the main symptoms, until death, in the second or third week, or convalescence, slowly established, in from four to eight weeks. Two of the fatal cases had serious pneumonic complication. Five of these nine cases proved fatal: A little boy, June 1; H. B. on the 3rd; a child on the 8th; Mr. B. on the 15th; and Mrs. B. on the 17th. Examination after death, on two of the bodies, showed the parasite in the muscles, estimated by others, and myself, at about 200,000 per cubic inch. Some were also found in the lungs and spleen. We have given the above cases reported by Dr. Horr almost verbatim, for the purpose of comparing the symptoms with those of which we are now about to report, of the family of Mr. T. W. Teft, of Elgin township:

On or about the 18th of February, 1869, Mr. T. was taken with a diarrhoea, and was not able to be at his work, but did not think himself sick enough to call a physician. The bowel complaint continued about the same until the first of March, at which time it became much augmented; and at this time two of his children were taken sick, and a day or two subsequently his wife was taken.

Being absent from home, we did not see the cases until March 11, at which time we learned that, when first taken, the three last cases were slightly sick at the stomach, but did not vomit, with general febrile symptoms, and occasionally a sharp, cutting pain in the stomach and upper portion of the bowels. Mr. T. had a partially dry and very red tongue, with a desire to wet it every few minutes; skin dry and hot by turns, and then drenched with sweat; pulse 140 per minute, small, with artery quite firmly contracted on circulating fluid; bowels discharging frequently a copious liquid, light-colored, horrid-smelling evacuation. He had a sharp pain in the left side, directly over the attachment of

the diaphragm to the side, with cough, and an inability to lie upon the affected side; was wakeful, without any aberration of mind. There was more or less tenderness over the abdomen and also of the muscular system generally. He had a voracious appetite to eat, and desired the strongest kind of food, like pork, cabbage and potatoes, of which he would make a good meal for a well man, although, at the same time, his tongue was as red as a piece of beef. He was emaciated, and the countenance assumed a contracted, anxious appearance.

The medicine prescribed at this time consisted of pill hyd., grs. 3, pulv. gm. opii, gr. 1; one to be taken every eight hours, alternated with spts. turpentine, gtts. 25, in simple syrup. The blue mass was given to change the secretions and appearance of the evacuations of the bowels. The pill appeared to have no effect in changing the appearance, or controlling the evacuations, and after using it for two or three days, its further use was discontinued, and he was put upon muriatic acid, in 10-drop doses, well diluted with sugar and water, for the purpose of checking the profuse perspiration. After using this for about 48 hours, the sweating very much abated, and it was discontinued, and he was then put upon a solution of nitras argenti, the strength of which was half of a grain to the teaspoonful of rain water, to be largely diluted with water before taking. Of this solution he commenced with one-half a teaspoonful every six hours, which was increased to one, and finally to two teaspoonsfuls at a time. This had the happy effect of checking the bowel complaint, and he began to amend, but his convalescence was very slow and protracted for months.

Now, while we firmly believe that the case of Mr. T. was one of trichiniasis, yet we are of the opinion that his being unwell, with a bowel complaint, at the time of eating the meat, which undoubtedly was raw, and in small quantity, and the increased irritation of the stomach and bowels, caused by the presence of the trichina in them, with the frequent evacuations of the same, thereby removing very many of the young trichina as soon as produced, aided him very much. That trichina passed through the coats of the bowels and entered the muscles in his case, we have no doubt; but far less in number than in the other cases of his family.

Mrs. T., as we have before stated, when first seen was laboring under general febrile symptoms; the tongue was nearly covered with a light-brown coat, the edges and tip of which were red, and the same redness extended a little way down the centre; the bowels were constipated; urine scanty. She had but very little pain, and that little was confined to the epigastric region. She also had a slight, hacking cough, without expectoration; the face was deathly pale, alternating with a very slight crimson flush, apparently deep-seated in the dermoid tissue; the pulse was from 150 to 160 per minute, small, with the artery quite firmly contracted on the circulating fluid. There was a frequent desire for cold water, but the amount taken at each time was small, it seeming that there was no great desire for very large potations.

As with her, so it was with the children, the symptoms up to the 11th of March being very similar in the three cases, the little boy apparently the sickest of the family. The brain did not seem to suffer much, all being perfectly sane, but a sort of wakefulness was plainly visible in each. From their appearance, we judged the exciting cause, whatever it might be, to be the same in these three cases, and the like was presumed to be the case with Mr. T., although, in some respects, he was somewhat different from the others. At our second visit Dr. Winchester was invited to visit the family with us, and kindly accepted the invitation.

The possibility of the family being affected with trichiniasis was then and there thought of, and all the facts then accessible were there elicited, and we were forced to the conclusion that this must be the disease of which they were afflicted. In coming to this conclusion we had many obstacles to surmount. First: The hogs from which the pork was made were reared on the farm, in a yard of about an acre; were out of this but once or twice, and then for but a few moments; were sixteen months old, and never known to be sick; they were butchered about the 1st of December, 1868, were well fattened, and the pork looked nice; the family had eaten of it from that time up to about the time of sickening without any bad effect; they had no recollection of eating any of it raw.

Previously, the house had been searched from garret to cellar, and the well from which they used water had been cleaned, without finding any local cause for the sickness of the family.

At this time the exciting cause, whatever it might be, lay hidden from view, and we only had the symptoms, as they then appeared, to guide us in our diagnosis. As the disease traveled on, the symptoms became more thoroughly developed, and the opinion before advanced was now much strengthened. A day or two subsequent to this consultation, a portion of the ham then in use by the balance of the family was examined under the microscope, and gave no evidence of trichina. On the 16th, the face of the wife and children began to swell about the eyes, and the muscles generally through the system began to be sore to the touch, which continued to increase; and on the 18th of March the muscles of the face and limbs evidently began to waste and the feet to swell. The œdema of the feet did not extend up the limb above the ankle at any time during the sickness of either of the patients. At this time there was a hoarseness of the voice and difficulty of swallowing. The patients were on the bed, flat upon their backs, without the power to move, or the ability to be moved, without suffering the most excruciating pain.

The bowels were still constipated, the abdomen was tympanitic and extremely tender to the touch; the pulse was decidedly quick, the skin at times a little warmer than in health, and at other times covered with a profuse perspiration. They now complained of great debility, but no pain unless moved. The appetite was good, with a desire for the heartiest kind of food. The urine was scanty, pale, and in one of the cases was for a time passed involuntarily.

On the 20th of March, and up to the 28th, there appeared to be some abatement in symptoms; but on the 29th they began to increase in severity, and continued so to do with Mrs. T. until the 6th of April, when death closed the scene with her.

The little girl began to amend about this time, but the little boy continued very sick until about the 20th of April, at which time he began to improve, but his convalescence was slow and tedious, it being some three months and a half from the attack before he could walk, and then for a time he could not get his heel to the floor.

The treatment advised in these three last cases was, first, a cathartic, composed of 10 grs. submuriate hyd., 15 grs. conv. jalapa, 1 gr. podophyllin, and 1 gr. c. ipec. for the mother, and

two-thirds of a like dose for each of the children, to be followed in six hours with oil and turpentine if the bowels were not freely moved. After the bowels were freely opened, they were each put upon an emulsion of spts. turpentine, in doses of 20 drops of turpentine for Mrs. T., and from 10 to 15 drops for each of the children, to be given every four hours.

While using the emulsion, they were allowed a liberal diet of mutton or chicken broth and condensed beef, with rice and crackers. A free use of the chinchona bark, together with other tonic medicines, were substituted in a few days for the turpentine emulsion.

Mrs. T. continued from the 11th day of March without any decided change up to 1st April, at which time she began to complain of great prostration, attended with a frequent, slight cough, with but very little expectoration, but a marked hoarseness was plainly discernable. On the 3rd, 4th and 5th of April, she still complained of the great prostration, with the remark that it seemed to her that she had not the power to fill her lungs with air, but was in no pain when lying still, but in great pain when moved. She also remarked that it appeared to her that she would fall to pieces if lifted from the bed on which she was then lying. A subsequent examination of the body demonstrated the fact that the muscular fibre was almost wholly destroyed, explaining without doubt the cause of those feelings.

Of the cases reported by Dr. Horr, in the main, the symptoms are much like those of Mr. Tefft's family, with this difference: his cases had diarrhoea on the second day, while three of those we attended had no diarrhea at any stage, and the fourth one had a diarrhoea for some two weeks before being taken down with the disease. Then, again, his had pain, soreness and debility of the muscles of the limbs on the third, with swelling of the face, followed on the fourth and fifth days by swelling of the hands, then of the feet and legs; while in those we attended the soreness of the muscles did not commence until the twelfth day, and they had no pain unless moved; the face bloated on or about the fifteenth day, and a day or two subsequently the feet swelled, but the legs did not bloat at all, but rapidly emaciated. In the little boy, the scrotum became swollen about this time, which lasted for a few days only. Mrs. T. died on the thirty-fourth day

of her sickness, the time of death from attack differing but few days from that of the Bemis family.

One of the cases reported by Dr. H. was that of a young lady, who, he says, had lameness of the muscles on the second, and diarrhoea on the third day. Now we are disposed to doubt the ability of trichina to enter the muscles so soon after the ingesta of the pork, and we cannot see how they should produce their specific effect on the muscle before they enter it. We here assume the ground that no parent trichina ever enter the muscles a second time. When taken into the stomach, they must necessarily occupy from four to six or eight days in being liberated from their capsule, conceiving, maturing and depositing their young, which, when so deposited, are the trichina which in their turn enter the muscular system. Now, if this be correct, we would not expect any pain or soreness of the muscles for the first six or eight days after the ingesta of the meat. It also appears to us that there must be a second brood of these little parasites, which are developed on or about the twentieth day after the ingesta of the meat, perhaps a little later. Our reasons for this opinion are simply these: First, each of the patients under our care was taken much worse on or about the twenty-eighth day of the disease, and it was not until this second attack (if so it may be called) that we seriously feared that Mrs. T. would not recover. From the soreness and emaciation of the muscles, we had every reason to believe that the trichina was there at work long ere this; and, furthermore, on examination of the body of Mrs. T., made on the twenty-fifth day after death, trichina were found encysted, and others not fully grown and of course not yet encysted. Now, had they all been produced at one and the same time, we should have expected them all to have arrived at maturity at or near the same time.

Trichiniasis is one of the most dangerous of all parasitic diseases, and it behooves the physician to study well the nature, origin and development of the entizone producing it, as well as the early symptoms of the disease.

The effectual treatment of the disease is confined to a few of the first days of the sickness of the patient, and before the parasite has time to mature its young, which it will undoubtedly do within eight or ten days after the ingesta of the meat. When

once the trichina have wormed their way through the coats of the intestines, they are then beyond the reach of medicine, and we have only to wait for them to feed, mature and encyst, which, if our patient has the good luck to survive, will most assuredly recover as far as is consistent with the amount of these little parasites left imbedded in the muscular tissue, which he will undoubtedly ever have to carry through life.

If this be correct, then how important to diagnose the disease at an early day, and apply without delay the only treatment which, in our judgment, has any chance of mitigating the evil effects of this little parasite.

We would commence our treatment at an early day, with the free use of active cathartics, followed immediately with a liberal use of the turpentine emulsion. Prof. Mosler, of Berlin, advises cathartics, followed with the following mixture, to destroy the trichina while in the intestines ; benzine, 23, muc. of gum arabic, liquorice juice, each 15, in 45 peppermint water ; of this a tablespoonful is to be given every one or two hours. The carbolic acid has also been advised, with a view of expelling the trichina while still in the intestines.

Prof. Fredrichs recommends the picronitrate of potassa as a remedy, to be given in grain doses, to remove the trichina from the system after they have entered the muscles, and cites a case as evidence of its good effect, where he harpooned the muscles several times, the last of which showed no trichina. The power of removing the trichina from the muscles by the use of the pichronitrate of potassa, as claimed by Prof. F., has not been confirmed by subsequent observations ; and allow us here to reiterate what we have before said, that we do not believe that any known medicine possesses the power of removing the trichina when once encysted in the muscular tissue.

Therefore, we most emphatically say that, in our opinion, the first few days is the only time in which we can have any hopes of removing trichina from the system, and if this be passed without proper means having been employed, we may fold our arms and be lookers-on while our patients are being tossed about upon the turbulent sea of disease, without the means of rendering any, or but very little, real assistance, at most. We would here repeat and earnestly enjoin the old Scotch physician's recommendation

of two important things to be done by his patients, in order to the enjoyment of good health; the first of which was, to always keep the fear of the LORD before your eyes; and the second was, to always keep your bowels freely open with cathartics.

On this last hangs the sheet-anchor of the early treatment of trichiniasis, in our judgment.

In conclusion, allow us here to proffer our many thanks to Col. Beatty, of Elgin, for his kindness in first detecting the trichina in the pork of Mr. Teft. He being a microscopist of much experience, we took some of the suspected meat to him, and he soon demonstrated the trichina to us, in great numbers, since which time we have personally examined much pork and many hogs, both in this State and Minnesota, and have not been able to detect the trichina in a single instance, other than that of the pork of Mr. T.

In the *Medical Examiner*, for May, 1866, we find the report of a committee, made to the Chicago Academy of Sciences, in which they state that, of 1394 hogs examined, they found trichina in 28, making one in 50, or very nearly so; while in Brunswick, of 19,747 hogs examined, there were but two found containing trichina, or one in 10,000, as against 1 in 50 in this country. The comparative immunity from the disease in our people results, no doubt, from the thoroughly cooking of the meat before eating it, while in Germany much is eaten raw.

According to the best information we are able to obtain at this time, it will require about 190° Fahrenheit, of dry heat, to effectually destroy the parasite.

It has been stated that 106° Fahr. would destroy the trichina most assuredly. This is only eight degrees above blood heat, and it would appear to us that the statement is an error. Now, one who is at all conversant with the tenacity with which this little parasite holds to life, would argue or attempt to state that so low a temperature as 106° Fahr., would effectually destroy the parasite, or securely protect the eater of meat containing them.

A cubic inch of meat containing trichina has been boiled for twenty minutes, and a portion fed to a rabbit, which was trichinosed; but a portion of the same meat was boiled a few minutes longer and fed to another rabbit, which produced no effect on it.

It has also been said that a saturated solution of chloride of

soda would kill this parasite in a few minutes, and that meat, salted and smoked, would wholly destroy the parasite. This, most assuredly, is not so; for the ham eaten by Mr. Tefft's family was both well salted and smoked before eating. Therefore, we are constrained to say that, in our judgment, the only safety in eating pork is in having it well and thoroughly cooked.

Since penning the foregoing, we have received, through the kindness of Dr. Reed, of Hampshire, a specimen of pork and sausage, from a family living in the western part of Kane county, who were taken dangerously ill after eating of the meat, a part of whom have since died.

This meat and sausage, according to our estimate, contains about 8000 trichina to the cubic inch.

In regard to the history of these cases, we know but very little that is reliable. But we know sufficient to induce us, again, to urge upon the medical profession the importance of thoroughly posting themselves in the early history and symptoms of this much-to-be-feared disease, so as to be liable to diagnose it at sight; for on this and the early judicious treatment, may and undoubtedly will depend the life of our patients, in very many cases.

While trichiniasis was only known to Germany, our people had but little fear of the disease; but now that it has become a disease known to exist this side of the Atlantic, and even to be laid at the threshold of many of our doors; and when we come to reflect that, according to the report of the committee at Chicago, made in the year 1866, of hogs sold in that city, we are liable to the disease (all other things being equal) as 200 is to 1; or, in other words, 200 hogs are trichinosed here to 1 in the German States, where it has prevailed to such an alarming extent.

In view of these facts, it would seem that our people should awaken to the reality of our situation, and take measures to devise, if possible, some means to protect the people of this country from the ravages of this much-to-be-feared disease.

ARTICLE II.—*Modus Operandi and Domain of the Turkish Bath.* By M. P. HANSON, M.D., Milwaukee, Wisconsin.

PRELIMINARY to a perfect understanding of principles and facts which I propose to set forth in this treatise, it is necessary to state very briefly the *modus operandi* of the thermæ.

One of the uses of ordinary perspiration is to maintain the equilibrium of temperature, on which the safety of the individual depends. The natural average temperature of the human body is 98° Fahr., and whenever it rises to 112°, or sinks to 60°, death ensues. Therefore nature has provided that this standard of 98° shall be maintained in every latitude, and under all atmospheric variations. When unusual heat is applied to the surface of the body, the system is called upon to protect itself by maintaining its equilibrium at 98°, and this is accomplished by throwing out water to be evaporated from the surface. When water becomes vapor, a large amount of heat becomes latent, and thus the higher the temperature, the more abundant the flow of sweat, and the more rapid the evaporation, and the heat is carried off latent in the vapor. Thus man is enabled to endure habitual exposure to an artificial temperature of dry air, as high as 400°. Carpenter says :

"Many instances are on record of heat from 250° to 280°, being endured in dry air, for a considerable length of time, even by persons unaccustomed to a particularly high temperature; and persons whose occupations are such as to require it, can sustain a much higher degree of heat, though perhaps for not any long period. The workmen of the late Sir F. Chantrey have been accustomed to enter a furnace in which his moulds were dried, whilst the floor was red hot, and a thermometer in the air stood at 360°; and Chabert, 'the Fire King,' was in the habit of entering an oven, whose temperature was from 400° to 600°."—*Human Physiology, Third English Edition, p. 888.*

Men engaged in various branches of manufacturing industry, such as ore smelting, iron foundries, rolling mills, and glass works, are habitually exposed, for lengthened periods, to heat, ranging from 200° to 350°, which they are able to sustain for years, without any loss of vigor, or detriment to health, and simply because there are seven millions little glands spread over the

inner surface of the skin for the purpose of secreting an aqueous fluid for exhalation and evaporation; thus carrying off the heat that would otherwise raise the temperature of the body. Water boils at 212° , when steam is formed, and not all the coal in Pennsylvania, heaped into one monstrous fire, could raise the temperature of water above 212° , so long as the steam or vapor is allowed to pass off. And just so a man can endure a temperature of even 600° , for a time, with impunity, provided the skin acts freely, and the atmosphere about him is *dry*, and drinks up rapidly the moisture that exhales, as dry air always will. So far, indeed, from high temperature proving injurious, it is owing to the adaptability of the skin to resist high artificial heat, that the bath relies for its marvelous sanitary and curative powers; and thus we see that there is no foundation for the popular, and, to some extent, professional prejudice about the hot-air bath increasing the temperature of the body to a dangerous degree. Such a prejudice is not only condemned by physiology and experience, but is in *direct antagonism to the very laws of our being*.

Now, how comes it that by a slight increasing of heat, there should be a sudden power given to the skin to throw out moisture? And where does this moisture come from? It comes from the blood; and to be able to furnish the moisture, the *skin must have blood*; and this is the grand secret of the *modus operandi* of the Turkish bath. *It is by equalizing the circulation, and thus removing congestion, whether of the lungs, the liver, the brain, or any internal organ, or tissue near the surface, or the skin itself.* When the heat is applied to the whole surface of the body, the blood that is freely circulating about the trunk is thrown to the surface, and the extremities; and its water, loaded with the effete and waste matter from the system, is given up to protect the skin; but the heat is continued, and more water is wanted, and more blood must be had, and now all the energies of the system are aroused to bring into the circulation the pounds of blood that have been stagnant, and congesting your lungs, or liver, or some other organ, for weeks, and all the absorbents are set to work, to take up any dropsical effusion, whether in the cellular tissue, or in the shut cavities, as the abdomen, chest, etc., that it may be restored to the circulation, and evaporated from the surface.

So, also, in equalizing the circulation, it distributes nutrition, as nutrition goes with the blood. Erasmus Wilson says : "Scrofula is imperfect nutrition ; cancer is imperfect nutrition ; indigestion, rheumatism, gout, neuralgia, are imperfect nutrition. Give a power by which nutrition can be regulated, and you can immediately control these various diseases. Now there is no power by which the proper direction of nutrition can be attained, excepting through the skin, and that I believe to be the explanation of the extraordinary results which flow from the Turkish bath."

And, over and above all, the bath *purifies the blood* more directly and thoroughly than any other means the science of medicine has ever before suggested. Perspiration eliminates the water from the blood, loaded with the waste and poisonous matter from the system ; and, by drinking cold water, the blood is replenished with wholesome material in exchange. Indeed, this is the most important purpose which perspiration serves. Man perspires, because perspiration, being the watery portion of the blood, carries out with it all extraneous and poisonous matter ; thus removing all constitutional taints, whether of scrofula, syphilis, cancer, tuberculosis, or any blood disease.

The blood has to carry away the worn-out material which results from every motion of the body, or of the mind. While depositing fresh fibre, it has to remove old poison. In fact, that blood, with its watery portion, is washing the whole internal man, every instant of time, or, he is repeating back upon himself his own pollution.

While, then, we are constantly producing the phenomena of life, we are constantly producing the elements of death. Your own breath will kill ; all that comes from you kills ; it is poison, and the simple action of the thermæ, or Turkish bath, is to

Equalize the circulation,

Remove congestion,

Distribute nutrition,

Restore and keep active all the secretions, whether of the skin, the kidneys, or the liver, and thus eliminate poison from the system.

And any experienced physician will be able to see how many diseases may be benefited, or entirely controlled, by such an instrumentality.

The Turkish bath, however, in the minds of even medical men, is very generally confounded with the Russian, or steam bath, while neither of them is very well known to the profession. In structure and manipulation and general management, they are essentially the same; neither is represented by a tub or a steam-box, but should consist, at least, of four good-sized rooms. And right here the difference, which is vast and important, begins. The Turkish bath is for the application of dry, heated air (of sufficient temperature) to the surface of the body, and for sufficient time to produce profuse perspiration. On the other hand, the Russian bath is for the application of steam or vapor; and no scientific man, upon a little reflection, can fail to see the difference.

Water at 110° is quite scalding, and vapor at 136° can be endured for only a very short period, because there is no *evaporation* to protect the skin; no heat becomes latent, as in the process of evaporating the perspiration in the hot air bath.

The temperature of the human body is 98° . Immerse it in vapor at 130° , and, it being the coldest object in the room, becomes the condenser, and the water (not the sweat) begins to run from the body, which condenses it; and it is right here that *science* and *experience* meet. The pulse begins to rise, the face is suffused, the head is bewildered, and the sensible heat of the body increased towards the fatal degree. On the contrary, the Turkish bath is only comfortable at 140° , and is used with perfect safety at 240° . At 140° it does not increase the pulse four beats in a minute, while the water bath at 110° , and the Russian bath at 130° , will increase the pulse forty to fifty beats a minute, and cannot be endured more than one hour, while patients frequently remain in the bath of Dr. Urquhart, at Riverside, London, for six hours, and a part of the time at 230° ; and, so far from being injured, the happiest results are thus secured.

Another essential difference is, that prolonged bathing in vapor, or water, produces great debility, as it *hinders* perspiration and robs the body of its electricity. Nature never does a work of supererogation; if the moisture is supplied from without, it does not come from within. In the *warm* water bath the parts under water do not perspire, and the patient increases in weight by absorbing the water. In the *hot* water, or vapor bath, he neither increases or diminishes in weight, because the irritation shuts up

the pores, in order to protect the tissues beneath. *Hot air*, on the contrary forces a free action of the skin, and, from its dryness, is highly electric. Hence the *invigorating* effects of the one, and the contrary effects of the other.

[TO BE CONTINUED.]

ARTICLE III.—*Puerperal Convulsions:* An essay read before the McLean County Medical Society, October, 1869. By J. LITTLE, M.D., of Leroy, Illinois.

NOTHING is more terrifying to a family than to have one of its members seized with convulsions; and never is a physician more hastily and earnestly appealed to for prompt aid than on such occasions. And in no class of cases has he so little time to reflect; and hence the importance of being well informed, and knowing the very best course to be pursued in the treatment of the different kinds of convulsions.

The term convulsion may be defined, "a violent, irregular, and involuntary contraction of muscles ordinarily under the control of the will." The phenomena and pathology of convulsions are essentially the same in all cases, though the causes and symptoms may be dissimilar. Convulsions are said to be tonic and clonic, depending on the duration of the spasm; tetanus belongs to the former and epilepsy to the latter variety. Clonic convulsions are simple in character; epileptic, epileptoid, and puerperal convulsions belong to this division.

The causes of convulsions may act centrically or eccentrically; centrically when they act upon the nervous centres primarily, and eccentrically when they act on the nerves of some organ or part, and are then reflected to the spinal cord. When a woman has convulsions during, previous to, or after parturition, they are called puerperal. In one sense this is always true, but in another sense it is not, perhaps, always true. When we speak of puerperal convulsions, we mean convulsions depending *per se* on the puerperal condition, or convulsions peculiar to the pregnant woman, generally occurring about the time of delivery.

Puerperal convulsions are not common—occurring in every 600th to every 1000th case. They are far more common in the

primipara than in the multipara; more common, as a general rule, in the more respectable unmarried primiparæ than in any other class.

Clinical observation has demonstrated that women whose urine is albuminous are very liable to have convulsions, and those whose urine is free from albumen are exempt. And it has further proven, that in proportion to the richness of albumen is the danger of convulsions increased. It has also proven, that if the albumen can be made to disappear from the urine, the danger of convulsions is passed.

But, is albumen in the urine a cause of puerperal convulsions? By no means. It only shows a disease of the kidneys. General or local anasarca, pallor of the skin, vertigo and feebleness, are symptoms of albumen in the urine; but, when suspected, the physician should be content with nothing less than its detection in the urine by nitric acid and heat. Now, when the kidneys are so diseased as to pour out with the urine the albumen of the blood, the urea is not eliminated from the system, but accumulates in the blood, and causes convulsions. Urea is an excrementitious principle, and in health is always found in the urine in small quantity; but when, from disease or any other cause, it is not excreted from the blood by the kidneys, it produces toxæmiaæ of the most dangerous kind.

In Bright's disease there is albumen in the urine, and an excess of urea in the blood, and uræmic convulsions frequently occur. If one or both kidneys be removed from a dog, he will die of uræmic convulsions in two or three days. Now, what causes the condition of things of which we have just spoken, and which portends convulsions? Acute Bright's disease. And what causes this? Pressure of the gravid uterus upon the kidneys. Pressure of the gravid uterus causes frequently an enormous accumulation of fæces in the large intestine, and this increases the pressure on the kidneys. Pressure of the pregnant womb causes the veins of the lower extremities to be over-distended, and hence the cellular infiltration; and it prevents the usual amount of arterial blood going to the lower extremities, and causes an undue amount to be sent to the head and trunk and upper extremities, and causes a sur-excitation of the great nerve-centres, rendering the individual more susceptible to abnormal influences.

Taking all the facts into consideration — that primapara are more liable to puerperal convulsions than multipara ; and that they are more liable because the pressure on the kidneys and gread blood vessels is greater, on account of tight lacing, to which they resort to conceal their condition, and their abdominal walls being more rigid than women who have borne children ; the pressure of albumen in the urine, and urea in the blood, and the similarity of puerperal convulsions to pure uræmic convulsions — we must conclude that the great exciting element in puerperal convulsions is urea. Then the most successful treatment proves this conclusion to be correct.

When the kidneys are disabled, the skin and bowels are the channels that afford the most natural and direct outlet for the excrementitious elements of the urine. Saline purgatives and diaphoretics of the most active class, is the approved practice in warding off a threatened attack and in treating a case of puerperal convulsions. When the urea cannot be eliminated, on account of the frequency or severity of the convulsions, the next best treatment is to weaken its power, or render the parts upon which it acts less susceptible to its influence. Blood-letting, if the subject will bear it, will weaken the action of the poison by lessening its quantity in the blood, and chloroforming the patient will destroy the susceptibility of the nerve-centres to the urea. If all other means fail, the pressure on the kidneys and abdominal blood-vessels must be removed by prompt delivery, if possible.

Convulsions in the pregnant female, as in any other person, may be caused by acrid or indigestible substances in the stomach or bowels, and their cure demands the immediate removal of the cause. The pressure of the child's head, in its passage through the pelvic straits, may cause convulsions, but, as soon as the head is delivered, the convulsions cease. An over-distended bladder or bowel, a great and sudden impression, may cause convulsions in a parturient woman. These causes act eccentrically, and the convulsions so produced are not, as before intimated, really puerperal convulsions, because convulsions in children, or men, or the non-pregnant female, are produced by such causes.

The principal signs of puerperal convulsions are, albumen in the urine, urea in the blood, and local or general anasarca. The chief symptoms are, headache, vertigo, constipation, bad taste in

the mouth, nausea, amaurosis, double vision, muscæ volitantes, listlessness, sharp or severe pain in stomach, back, bowels or head, jactitation, etc. A general uneasiness and restlessness often precede for some hours and usher in the convulsions.

In all cases where we have the least grounds for suspecting convulsions, it is our duty to examine the urine at once, and if albumen is present, to use prophylactic treatment until it disappears. The most successful preventive measures are saline cathartics, diaphoretics, diuretics, and a non-nitrogenous diet. The woman should be directed to take outdoor exercise on foot, to lie on her sides, and to leave off her corsets and all close-fitting garments, in order to relieve the kidneys from pressure. There is no reasonable doubt that almost all cases of puerperal convulsions might be prevented by a rational course of prophylactic treatment timely begun. In this, as in many other disorders, the preventive treatment is the most successful, and, therefore, the most important. But the child-bearing part of community is not aware of this, and it is the physician's duty, in his rounds, to look out for cases requiring prophylactic remedies and prescribe them.

But when puerperal convulsions have occurred, the most successful treatment seems to consist in a judicious use of chloroform, blood-letting, stimulating enemata, hot vapor baths, cold to head, dry and wet cupping over the region of the kidneys and on the nape of the neck, or strong mustard drafts, and active saline cathartics or croton oil. Colchicum, benzoic acid, and acetate of potassa are the most highly recommended as diuretics; but these cannot be relied on to the exclusion of other eliminatives, as the kidneys are generally too much crippled to respond to diuretics. Bromide of potassium is highly recommended by many who have used it with good success. It is thought to act on and through the nerve centres, lessening cerebral and spinal congestion, and producing an anodyne and soporific effect, thus destroying, to some extent, the susceptibility of the nervous system to the spasm-producing agent. When every thing else fails, if circumstances would at all justify, the womb should be emptied, as the child in the uterus, and the urea in the blood, are the causes of puerperal convulsions. But if the urea can be eliminated or neutralized, or if the parts on which it acts can be so affected as to be insensible to its action, by treatment, the convulsions will be cured.

If our views as regards the causation and pathology of puerperal convulsions are correct, their treatment, to be rational, must eliminate or neutralize the urea, or render the nerve centres insensible to its presence. This, then, is the great object in the treatment of cases, whether occurring before, during, or after delivery. I have treated several cases of genuine puerperal convulsions, in accordance with the views here presented, with the best success, and will give the history and treatment of but a single case, in this connection, as it will serve to illustrate the foregoing remarks.

About eleven o'clock on the night of September 18, was called to visit Mrs. L., in haste, as the messenger said she was having fits. Was soon at her bedside, and obtained the following facts: She was taken in labor, at full term, on the evening of September 17, and after a tedious and harrassing labor was delivered of a large, healthy child, at ten and a half o'clock, A.M., on the 18th. She was a primipara, twenty-two years of age, nervo-sanguine temperament, stout, short and muscular, of sedentary habits, and habitually costive. Her feet and legs had been considerably swollen for several days, and she had complained of dizziness, and headache, and trouble in voiding her urine.

The labor being completed, she was bandaged and dressed, and every thing done that could be to promote her comfort; but still she complained of a good deal of pain in the region of the womb, and as time wore on, the pain increased and extended to her back and stomach. She became restless, and turned and tossed from side to side, in spite of admonitions to lie still, or she would hurt herself or babe, until the latter had to be removed for safety. About five o'clock the pain in her head became intense, and about six o'clock a very severe pain occurred in the right hypochondrium, and these pains continued with no abatement till about seven o'clock, when the first convulsion took place. The convulsions returned about every hour and a quarter, and she had her fifth one ten minutes after my arrival.

Ordered a sinapism over region of kidneys, another on nape of neck, and another on epigastrium; a hot, stimulating pediluvia, twelve hot bricks, enveloped in wet cloths, to be placed in the bed pretty close to the patient, and cold water to head. Gave fifteen grains bromide of potassium, and a teaspoonful of spts.

eth. nit., with five drops fld. ext. colchium, and in fifteen minutes gave a tablespoonful sulph. mag., in half tumbler cold water, and in fifteen minutes more administered an enema, consisting of two-thirds of a pint of warm soap-suds, a tablespoonful each of castor oil, spts. turpentine, and common salt. Introduced catheter, and drew off about four ounces of dark, offensive urine, loaded with albumen. Repeated the bromide of potassium, and sat down by my patient, with chloroform at hand, determined to forestall the next convulsion by its use; but in this I was disappointed, for, before I was aware of it, the time for its return had come, and she was seized with another hard convulsion. When it had passed away we persevered in the treatment begun, repeating all the internal remedies in the order mentioned above. About fifty minutes after the last convulsion her bowels moved copiously, her urine passed freely, and she was perspiring profusely. Ten minutes before the time for next convulsion she was chloroformed pretty thoroughly, and was kept in this condition, with an occasional letting up, for three hours. During this time her bowels and bladder had been well emptied again, and she had continued to sweat freely. I remained with her till eleven o'clock, A.M., on the 19th, continuing treatment less heroically than at first, and as she had had no convulsion since about two o'clock in the morning, and seemed calm, rational and comfortable, and could take a little nourishment, I pronounced her out of danger, and took my leave. Directed a half Seidlitz powder to be given twice a day, and a teaspoonful of this: B.—Spts. mindereri, f $\frac{1}{2}$ iiss; tinct. colchici. sem., f $\frac{1}{2}$ ss. M. To be given every four hours, for two or three days. Light, bland nourishment, three or four times a day, and cold lemonade *ad libitum*. Perspiration to be encouraged by warm sponge baths, and the warm bricks. Heard nothing from my patient till October 5, when I learned she was very well, and had been doing her work for five days.

ARTICLE IV.—*Cases of Syphilis.* By F. B. NORCOM, A.M., M.D., Chicago.

CASE No. 1.—Mr. L—, unmarried, æt. 29, came to consult me, June 3, 1868, in relation to ulcers near the frenum. Muscular; full of red blood; nervo-bilious temperament; fair in his habits; moderately addicted to wine, a little more so to women. He had contracted his present trouble from an intercourse dating fifteen days back, about 19th May, and it was now the ninth day of its appearance. An examination revealed two small chancroids, right side; the smaller invading the frenum, and still spreading at its periphery; the larger showing some slight reparative action; both irritable, and covered by a rather profuse purulent discharge. No specific induration could be detected, and both groins exhibited multiple enlargements, the right, however, with large single bubo, tender upon pressure, and evincing a desire to suppurate. There had appeared, also, a slight watery discharge, a few days before, from the urethral canal, with some pain, and being already alarmed at the delay in his cure, this new complication caused him to dismiss unwarrantably his surgeon, and apply to myself, a change I did not believe for the better. I could discover nothing in the canal except a hypersensitiveness upon passing the sound, and simply recommended mild astringent injections. His general condition was not good; tongue coated; bowels costive; anorexia; light fever, with decided exacerbation at night, and broken slumber. Though very anxious about himself, he was unwilling to incur much further expense, nor could be persuaded to leave his business and keep quiet until the ulcers were healed, and all tendency to glandular suppuration averted. I touched the periphery of each chancroid with nitric acid, and ordered an astringent wash with aromatic wine, at same time attending to his proper secretions, and giving him a quinine and acid tonic. I explained the folly of keeping so constantly on his feet, and undergoing the fatigue of business, if he desired a speedy and happy termination to his present trouble.

Did not see him again until June 16, when I visited him at his boarding-house, to find that he had been under the management of one of his personal friends, who had had some experience

of his own ; had read Ricord, and who, though not a medical man, considered himself capable. To each groin a large, soft, fluctuating tumor, the right one about to open spontaneously ; frænum destroyed ; chancroids partially cicatrized, though indolent ; and general condition bad, there being great constitutional irritability, with its usual concomitants. Gave him an anaesthetic ; opened both buboes freely, and with my thumb gouged out the broken-down gland structure, making as clean cavities as practicable, and using water dressing covered with oil-silk, at same time slightly brushing the chancroids with nitrate of silver.

The next day, the 17th, he felt refreshed, a good night's rest being secured by an anodyne, and having lost that dreadful, dull, throbbing pain and fullness of the groins. Under a liberal and nutritious dietary, with tonics, he began to build up rapidly, and I left the case, 12th July — the cavities having almost closed — assuring him that there was no constitutional infection.

On 5th September he reappeared, with syphilitic roseola of the forehead ; faacial erythema ; some degree of syphilitic fever ; loss of appetite ; and in a condition of extreme alarm and rage, partly directed towards his disease and its future bearings, but more particularly against his doctor, who should have foreseen all this, and provided against its approach. It was somewhat puzzling to account for these secondary manifestations, especially as he had been continent since his first attack, and I felt certain my diagnosis and treatment had been correct and philosophical. Both groins exhibited well-marked multiple enlargements ; posterior mastoideon adenitis also present, but no nodulation at the site of the chancroids. I examined by palpation and with the instruments the canal critically, to discover if possible the situation of the chancre, which must have been a companion to the ulcers, but failed. Believing in the spontaneous elimination of syphilis under favorable circumstances, and knowing my patient to have a fine constitution, I calmed his fears, and ordered mercury and quinine to simply touch his gums. This was accomplished in about four days, then the mercury remitted, and tonic continued for at least a month, besides a nourishing diet, etc., etc. He called upon me several times this month, and everything seemed satisfactory, the eruption fading rapidly, and

the congestion of the throat improved, having never reached abrasion.

On the 11th October I renewed the mercurial, always combined with tonics, liberal food, warm bathing, etc., etc., and having again touched the gums, dropped the drug, but continued the sustaining treatment, though at this stage there was present a lenticular eruption of the abdomen, a few impetiginous spots of the scalp, and some alopecia.

He left the city shortly after this, and I did not again see him until the first week in January, 1869, when he was suffering from mild iritis, of few days standing; sore throat, superficial ulceration; several mucous patches on the tongue; and osteo-cepic pains at night. The iodide potassium in compound tincture cinchona; mercurial inunctions, etc., were exhibited, while the photophobia was greatly relieved by daily painting the forehead with strong tincture iodine, and throat washed with 40 gr. solution nitrate silver. Under these remedial agents he recovered rapidly, and up to this date—for I have watched him carefully, and always kept him in sight—has had no further accidents, and enjoys very robust health.

I present this case merely as a type of a certain class coming under the observation of physicians, and appearing subversive of the generally received doctrine, that constitutional contamination can only follow chancre. From observation, and from a critical examination of such "mixed cases," I have, as a rule, been able to discover that the true syphilitic sore did exist; and in several instances where I procured examinations of the women, have generally determined, if not the ulcer itself, the evidence of systemic poisoning, as shown by the engorged glandular system, the cutaneous irritation, and the morbid changes of mucous surfaces.

That a concealed urethral chancre (*larvæ*) did exist in this instance, I have no doubt, there being discharges and pain for several days, but escaped from my want of skill in detecting its *locale*.

The present and subsequent history of his *inamorata* I could never learn, as he was unwilling to renew the acquaintanceship; nor could he be persuaded to prosecute further inquiries as to her present condition, she being a "ladye faire," blushing under the shade and shadow of her husband's "vine and fig-tree," and

doubtless ignorant that her *complacency* and *abandon* had given birth to such sad results among at least one of her admirers.

Moral: *Le jeu ne vaut pas la choudelle.*

CASE No. 2.—Mr. B., aged 26 years, unmarried, a book-keeper, nervo-bilious temperament, and with strumous tendencies from hereditary taint, formerly much given to social enjoyments—pretty free use of alcoholic stimulants; ditto of females—*comibus longissimis, et id omne genus*—and consequently had received several visitations from clap.

He was placed under my care May 2, 1868, suffering from two putative chancroids on prepuce, near and to right of frenum, also multiple adenitis; and as the treatment so far pursued had been judicious, and the ulcers granulating, it was thought all danger of glandular suppuration had passed, and there could be no constitutional poisoning. His general condition was good, and there appeared nothing to do but continue, and allow the sores to heal. I was convinced, however, the moment I pressed the ulcers between my fingers, and from their extremely superficial character, as well as almost entire absence of discharge or secretion, that I had not chancroids to deal with, but well-marked parchment chancres, and was still strengthened in this belief by the long period of incubation—thirteen or fourteen days—and by the attendant *pléaides ganglionaires*.

As the case was now placed fairly under my charge, I prescribed a mild stimulating lotion, and such measures as would tend to keep up the tone of his system; at same time administering iron and tonics to prevent, as far as possible, blood deterioration. I was forced to give my opinion that, within three months, he must expect constitutional manifestations, and caution him against excesses, especially the too free indulgence in liquors, etc., which might tend to impair his vital or recuperative power, as I should count largely upon this to assist me in eliminating the *materies morbi*, when the time came for active interference. In ten days his ulcers were healed, and all tenderness of the inguinal region subsided, and his treatment continued.

In July he returned, with inflammation of fauces and tonsils, mottled and rough; slight falling of the hair; a well marked papular eruption of both legs; and some constitutional disturbance.

His face had lost, in some degree, its fresh, rosy hue, and he had fallen in weight, showing the sure and subtle influence of this specific virus upon his general nutrition.

He was given the blue mass, quinine, and opium until its effects were noticed upon his gums, then discontinued; and tonics, besides a liberal dietary, with a glass or two of wine or ale throughout the day; bathing, and exercise in the open air, so far as compatible with his business. This management was continued steadily, the mercurial resorted to every four or six weeks, for a few days, for at least four trials; then a course of alkaline carbonates, with bitter tonics, to complete the course. The eruption had gradually disappeared, leaving the characteristic coppery or violaceous stains — so pathognomonic of this disease — and all the attendant secondary changes ameliorated.

The October following, he came in from one of our western cities, suffering acutely, the last few days, with iritis of the left eye, sympathetic weakness and irritation of its companion, and severe frontal neuralgia. Dr. E. L. Holmes saw the patient with me, and as abundant lymph had been thrown out, covering the iris and occluding its pupil, he advised the treatment, already instituted, to be continued — mercurial inunctions, iodide potassium, quinine and atropia, and counter-irritation locally.

The inflammatory condition passed away in two weeks, leaving, however, great weakness, and some blurring of vision from defective nutritive changes in the atroptic media; but in a few months, these symptoms passed away; and under the continuous use of iron, quinine, cod-liver oil, etc., he seemed to regain his health; and by the spring, weighed as heavily as usual.

This treatment was essentially demanded by the condition of his lungs, which exhibited, upon careful examination, crude tuberculous masses in their apices; harsh inspiration; prolonged expiratory murmur; increased vocal fremitus and resonance; with dry cough and shortness of breath. Even these symptoms diminished in intensity, and in June his physical condition was better than it had been for many years.

On 11th August, while walking in the street, he was suddenly struck by hemiplegia, being only preceded the night and morning before by some little vertigo, distaste for food, and a feeling of *malaise*. I saw him a few hours after his seizure; found complete

palsy, hyperæsthesia, and, for a short time, increased temperature of the left side, with well-marked reflex movements; no abnormal intercranial sensations, but palsy also of same side of face, tongue, and enlarged pupil. Prof. Moses Gunn came to consult with me, and though we could not decide upon the exact lesion, yet, without question, we considered this state to result from specific disease.

Cold and heat applied alternately to the spine; large doses iodide potassium; moderate diet; absolute quietude; and, to satisfy every demand of his anxious friends, the direct current of electricity.

On the 19th, he had so far recovered that he left the city, to stay with some relatives; and since that time has been steadily improving, regaining his lost powers, and exhibiting no further manifestations of a syphilitic character. He is now in fine order, still taking his tonics, cod-liver oil, etc., and giving every attention to his general health. "We shall see what we shall see."

This patient presents to us several facts worthy of attention; the main one, the early invasion of the intercranial structures; the marked severity of the seizure; and the celerity of his recovery therefrom. As a rule, such attacks occur at a much later period of the disease, and come within the category of tertiary accidents, due either to slowly-formed periosteal growths, with pressure, or to *ramolissement* engendered by deficient red-blood supply. We have the analogue in these so-called atheromatous changes produced by gout, rheumatism, etc.

Notice the symptoms, in their proper sequence, between case number 1 and case number 2: Both young men, with plenty of recuperative energy; the one, however, with hereditary predisposition to scrofula, and impaired *vital power from excesses in alcohol*, women, and irregular hours; the other, a perfect constitution and well regulated life. In the latter, the secondary symptoms of the mildest character, easily controlled, and never bordering upon the tertiary stage; in the former severe secondary, rapidly assuming tertiary forms, affecting the most important organs of the economy. Elimination and antagonism rapid and well defined in the one; feeble and unpromising as to the future in the other.

Moral: Live temperately, and husband your resources like a Christian; be virtuous, and you will be happy.

CASE 3.—Col. H., married, aged 51, of sanguine temperament, vigorous and full-blooded, came to consult me Aug. 20, 1868, for a swelling in his left groin, somewhat painful upon pressure, and so far impeding locomotion as to interfere with his daily business; of irregular habits, being fond of his *toddy*, equally so of high living, and still more so of those frail daughters, who “submit not without a sigh, and yet submit.” Never been afflicted by any form of venereal disorder before.

The left groin was occupied by a very hard and tender tumor, and accompanied by numerous smaller satellites; the right, with several well defined enlargements, also; no throat trouble; no posterior cervical adenitis; nor could I detect the *debris* of an ulcer on the organ, nor elicit any information from a strict examination of the canal.

He only noticed the swelling about six or seven days before, and he assured me that he had held no intercourse with women since his wife's departure for the East, about the latter part of June. I was the more inclined to accept this statement, as he was an upright man, a member of the Board of Trade, went to church habitually, and was kind and considerate to all brought in contact with him; so, I had to pursue or fall back upon some of those far-fetched theories entertained by the profession many years, even after Fernel, when our knowledge of syphilis was in its infancy, and when it was supposed possible to contract it by mere contact—the shaking of hands, the chaste salute, etc.,—bearing the seeds of contagion, like the glove, or the bouquet, or the ring of a Borgia. His general condition was not particularly bad. Some little constitutional irritation, engendered, or at least enhanced, by his daily potations, for he was pretty *full* at this moment. He was ordered saline cathartics; his diet lowered; confined to his sofa; cut off from his toddies as far as possible; painted with strong tincture iodine; and sponge compress, with spica bandage, applied. He was visited at his house for ten days, the iodine and compression decidedly persisted in, and the bubo soon diminished to almost the size of its companions, when he was placed upon iron, quinine and small doses of protiodide, and at same time resumed his business, and, in all probability, his ordinary habits. I believe he continued this treatment not longer than three weeks, and then thought himself

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cured; but September 29th, came back, with hoarseness and faacial inflammation, in patches and abrasions, extending to the tonsils; lenticular eruption of the belly, and syphilitic efflorescence of the forehead and right cheek. His system in a measure sympathized with these manifestations, and his mental condition was distressing. He was placed under strict constitutional treatment, and all proper means instituted to keep up a fair balance between his health and an attempted elimination or neutralization of the specific virus circulating in his blood. On the 4th of October, the proper effects being noticed back of his molars, the mercurial was much reduced in its dose, and a nutritious but unirritating regimen instituted, with small quantities of sound wine to replace strong drinks.

As the colonel felt very wretchedly about having such a disorder, the more especially as he could not understand how it had been contracted, and might lay him open to the animadversions of his friends, should he be suspected, he followed the treatment ordered rigidly and faithfully, confining himself to the house until at least his face could no longer be the tell-tale of his "unmeasured woes," and, by letter, retarded the return of his wife, expected home about the middle of the month. This step appeared to me rather unnecessary, as this gentleman had repeatedly assured me of his entire innocence, and should not have been apprehensive. Ah, colonel! should I accept your statement without the *granum salis*, it would knock all my long-cherished theories, all my hard-worked experience into a cocked hat, and throw a mazy veil of obscurity and doubt over the results of many years of untiring labor and accurate observation; but ponder and read:

I saw the loveliest rose that graced the lawn,
With blooming fragrance gladdening all around:
Too bold, I thrust the forward hand,
Missed the fair flower, and only felt the wound."

The eruption on his face, a delicate roseola, began to subside in a few days, but impetigo appeared on his scalp and posterior cervical enlargements; while his throat became, if anything, worse, the ulcers deeper, more confluent, and more characteristic, and voice almost entirely gone. A rapid and decided impression was

110 P.M.

now made upon his system, at the same time using such local applications as were necessary for throat affections. About the 12th of the month I began to feel my patient improving, and regaining his voice and spirits; and, by the latter part of the month, the throat was well; so he was ordered, the "mixed treatment," to be continued many months, and enjoined to commit no excesses in drinking or otherwise, but to maintain the standard of high health. This patient remained well and vigorous for some time, but came to visit me in July, 1869, when I was absent from the city, and, upon my return in August, gave me a call to exhibit a small periosteal node upon left tibia, and excessive surface tenderness of both bones, with, I thought, some sub-periosteal effusion. The iodide potassium, with bark mixture, in fair but increasing doses to saturation, nutritious diet, bathing, etc. In a few weeks he was apparently well, only complaining of occasional nocturnal pains, and slight tenderness upon pressure, enhanced by damp, rainy or windy weather. I attempted to persuade him to winter at the Hot Springs, in Arkansas, as I knew the virtues of those waters unsurpassed in their curative properties upon all blood diseases.

There is one fact to be noted, however, in regard to the failures in many instances among those who visit these celebrated springs, and which is generally laid upon the wrong shoulders. Patients go there, and, having plenty of leisure time, begin to play "draw poker," consume large quantities of bad whisky, neglect the treatment and regimen instituted by the local physicians, and, after a few months' experience, become disgusted and sceptical. They should remember that, at home, especially in Chicago, they could have as much "draw poker," bad whisky, and a greater abundance of all good and bad things, than in any other city of its size in the universe; and it would seem to be an unnecessary and unreasonable waste of time and money to seek further.

Case 3rd presents another phase of this Protean disease. A bubo (*d'emblée*) as the primary accident, followed by secondary and tertiary phenomena. This doctrine was accepted, and held sway for many years among many of the best physicians in France and Germany; but it has gradually lost ground, and few can be found, now-a-days, to uphold it. Such apparent inconsistencies

arise, generally, not so much from the still-existing obscurity as to the essence of this disease, but to our lack of skill, ignorance of its history and effects, and want of proper observation.

Moral: In the sere and yellow leaf, seek not Aspasia; now the Oceanidæ should be impossible.

ARTICLE V.—*Microscopic Investigation in Cases of Sterility.*

By B. H. CHENEY, M.D.

"Ut alia sic alia facere possumus."—PROVERBIUM POPULI AMERICANI.

In the January (1869) number of the *New York Medical Journal*, is an article by Dr. J. Marion Sims on "The Microscope as an Aid in the Diagnosis and Treatment of Sterility." This article was previously read by its learned author at the meeting of the medical society of the county of New York, December 7, 1868.

I wish to say, at the outset, that I entertain the greatest respect for Dr. Sims, as one whose deservedly high reputation reflects credit upon the profession, and upon our country. I also realize that it may perhaps seem presumptuous in so humble a member of the profession as myself to criticise him. Still, there are things in the paper above referred to, concerning which not only every medical man ought to be capable of forming a decided individual opinion, but also which should be noticed by the profession at large.

The object, in substance, of Dr. Sims' paper, is to recommend, in investigating cases of sterility, the microscopic examination of the semen of the husband; this semen being obtained with a speculum from the vagina of the wife, as soon as may be after coition. This examination is thus instituted for the purpose of settling "three questions which must be decided before any case of sterility can be treated understandingly," viz.:

"1. We must be sure that we have semen with spermatozoa."

"2. We must ascertain if the spermatozoa enter the utero-cervical canal."

"3. We must determine whether the secretions of this canal are favorable or not to the vitality of the spermatozoa."

Critics and reviewers are often accused of misrepresentation,

or of leading to false impressions by quoting only a sentence or two here and there from the work or article under consideration, omitting the context, which might perhaps put a different construction upon the whole matter. To clear myself from any such imputation, and as some of your readers may not have seen the paper of Dr. Sims, I will quote from it that portion to which especial reference is here made. Let Dr. Sims, then, speak for himself:

"To find out all at once, and with the least delay and trouble, I usually say to the husband or wife, as it may be, 'It is very important before instituting any treatment, to be sure that the seminal fluid enters the neck of the womb, for without this, conception is impossible. We must also ascertain if the uterine secretions kill the semen; if so, a certain treatment will be necessary. If you will, then, send your wife here, or come with her any day, five or six hours after coition, it will be easy to settle these points at once.' In nineteen cases out of twenty, the wife presents herself the next day. The speculum is introduced, (and when I say the speculum, I always mean the one that bears my name), and some vaginal mucus is removed by the syringe, and placed on an object-glass. Then some cervical mucus is drawn out and placed on another object-glass. These two specimens are then examined under the microscope. If we find spermatozoa, well and good; but if we find none, neither in the vaginal, nor cervical mucus, our fears are at once aroused. What, then, is to be done? I simply say that I am not quite satisfied with the examination, and would like to see the wife again, at some future time, under the same circumstances. But, suppose we find no spermatozoa on this second examination? Then two questions immediately arise: either, that there are no spermatozoa, or that the semen has all passed off before the case came under observation. Sometimes the semen is all instantly thrown off by the vagina, and then it would not do to pronounce the husband sterile till we are sure of a specimen of his semen for investigation. If I fail to satisfy myself on this point, I then explain the possibility of the semen all passing off, in the act of rising and dressing, and show the absolute necessity of making the examination half an hour or so," (so-less?) "after coition, and before the erect posture is assumed. When the subject is presented in

this plain, practical manner, and treated seriously, no man or woman of sense could oppose it; and, with me, it has never, in a single instance, been objected to."*

Now, I am not, by any means, disposed to be prudish, or hypercritical in medical or scientific matters. Of course, "to the pure all things are pure;" and if the maxim that "the end sanctifies the means," be ever justifiable, it is so in circumstances and considerations affecting the health, the well-being, or the happiness of any human being.

But still, it would seem that to adopt such a procedure as that recommended above, is to go a little too far. The doctor, whoever he may be, earnest, enthusiastic, waits in an adjoining apartment, armed with speculum, sponge, syringe and microscope, while the husband and wife retire to celebrate the rites of hymen under the kindly favoring auspices of stern science. The act consummated, the disciple of Æsculapius, who is, for the nonce, the representative of science, and who, let us hope, though conscious of his proud mission, bears himself with becoming dignity and meekness, is ushered by the husband into the chamber where the wife is lying, still flushed and warm from the marital embrace, "not yet having assumed the erect posture." He introduces the speculum with the comforting words, "Madam, I will soon tell you why you don't have a baby." Perfect silence reigns. The expectant couple, yearning for parental joys, await in trembling hope the oracle, which is to bid them try again, or give it up as hopeless. The man of science looks, examines, tests, and finally gives — his opinion. For, after all, it is simply an opinion.

I would respectfully submit the question: ought not any competent physician to be able to determine, at least so far as to serve as a basis and guide for a rational therapy, whether a given case of sterility be curable, or beyond treatment, by a separate examination of the husband and wife, without resorting to the procedure recommended by Dr. Sims? The three questions, the settlement of which he very correctly insists upon as essential for the proper understanding and treatment of the case, viz.: as to the presence of spermatozoa in the semen; as to the possibility or impossibility of the spermatozoa entering the utero-cervical canal; and

* *New York Journal of Medicine*, January, 1869, pp. 400-401.

as to the character of the vaginal and utero-cervical secretions being favorable or not to the vitality of the spermatozoa ; — these three questions, which are all he claims to determine by his method, can certainly be about as well decided by a separate examination of the husband and wife.

That Dr. Sims should advocate such a measure, is certainly cause for surprise ; second only to it, is the wonder we feel when we read that his proposition for such an examination has, with him, "never, in a single instance, been objected to." For one would naturally think that most husbands and wives would scarcely consider the possible, and, at the best, uncertain result, a sufficient compensation for the means.

I would not be "old-fogyish" in conservatism, and am certainly far more disposed to welcome and adopt, than to criticise, or, least of all, ridicule, any thing which may conduce to the advancement of science, or the welfare of humanity. But it surely seems that if this procedure had not the indorsement and prestige cf a name so deservedly high as that of Dr. Sims, it would be too ridiculous and indecent to be noticed.

ARTICLE VI.—*Report of a Case of Typhoid Fever, Showing the Range of Temperature from the Beginning to the End of the Case.* By T. C. MURPHY, Green Valley, Ill.

It will be necessary for me to give a sketch of the residence, mode of living, etc., of the patient, Samuel W., aged 30, occupation farmer. Mr. W.'s residence is situated in a small grove of scrub oak. On the south of the house is a large swamp ; this swamp is covered with water during the spring and part of the summer months, furnishing abundance of malaria—in fact, it might be called the home of ague, the residence being situated so near to the swamp that pure air must be a stranger to the family. Mr. W., being a tenant on the farm, to save time, dug a well at the edge of the swamp. Into this well flowed the washing from the barn-yard, the surface water of the swamp making it a mixture of strength—in fact, it was not fit for a human being to drink. Being at the residence of Mr. W., during the month of June, 1869, I told him to have a well dug on high ground, so as to obtain

pure water. He said he had not the time to spare, and he would get along with such as he had. I told him if he did not dig a well he had better hire a physician by the year. During the month of July, Mrs. W. was taken sick; she had the remittent fever. I treated the case according to the indications. She got along well and passed from my care. I saw no more of the family until August 10. Mr. W. called at my office. He wanted medicine. He remarked, "My wife is having chills; she don't seem to be getting along very well. I am all right." A glance showed me such was not the case. He was pale and anaemic—in fact, he looked like a small traveling hospital. I ordered him quinia and iron; and again, "Please get a well dug." He went on his way rejoicing.

We now come to the facts in the case proper. I was called to see Mr. W., August 21. Found him in bed; had a severe chill at 10 A.M.; had fever at the time of my visit; temperature 105° F. Ordered quinia sulph., grs. 3, every three hours, in absence of fever. I could not see the case on next morning. When I did call, I was informed by Mrs. W. that my patient was better—to which I could not agree. I found my patient hard to arouse, unconscious of what was going on. On being aroused, I could get no satisfactory answers from him. I learned from his wife he had passed no urine since my last visit; picked at the bed-clothes during the night; low, muttering delirium; did not complain of pain, and he must be getting better. Flies were having a picnic over his face undisturbed. The family did not seem in the least alarmed. On examination, I found the bladder contained no urine; as he had passed no urine for near forty-eight hours, I was anxious for the result. Uraemic poisoning was near at hand. Temperature, 102 $\frac{1}{2}$. Diagnosis, typhoid fever.

I paid no attention to the treatment of typhoid fever (so called). The indication was: eliminate, or the case will pass through your digits. I ordered a strong decoction of buchu to be taken through the day. I called again at 9 P.M. Patient had passed no urine yet; is stupid, sweating profusely; sweat has a strong ammoniacal odor. On examination, I found the temperature 103 $\frac{1}{2}$ F. I passed the catheter, and drew off a small quantity of urine; its smell resembled that of the Chicago river. I now started on a voyage of discovery. I asked if there was a cellar under the

house. Yes. I examined the cellar ; found it contained a mixture of decayed pumpkins, potatoes, bedsteads, old crinoline, boots, fungi (or toad-stools), *et alii*. The house had been banked up with horse manure during the winter ; as it decayed, it found an inlet into the cellar — to make an outlet for human life. Do you wonder that typhoid flourished in such a den? I do not. Where the accumulated filth of years becomes concentrated in a cellar, under a house 16 by 16 feet, what wonder that the poison arising from such a "black hole" should act with such force on the nervous system of the patient, oppressing him nearly to the grave. I told the friends of the patient I could do nothing for the case, in such a house, as typhoid had marked it for its home. I at last got permission to move him to a large, clean house in the vicinity. I secured a room, 16 by 20 feet, where I could obtain fresh air, pure water, light, sunshine, and cleanliness, God's choicest blessings to man. Now, having secured a room to suit me, and procuring elimination by the kidneys, we wish to keep up the action of the eliminating organs — the kidneys, lungs, skin and intestines.

Third day : Tongue is covered with a yellow fur ; trembles on being put out of the mouth ; is dry and parched ; tenderness and gurgling in the iliac region ; diarrhoea ; low, muttering delirium ; temperature 104° . During the night the patient was restless ; tried to leave his bed. I ordered the following :

B	Hyd. submур.,	- - - - -	gr. ij;
	Pulv. doveri,	- - - - -	gr. j;
Give one every three hours.			
Second—			
B	Spts. ether nitric,	- - - - -	$\frac{3}{4}$ j;
	Fld. ext. veratrum,	- - - - -	gtt. viij; M.
A teaspoonful three times a day.			

Object of the above : The first, to secure elimination by the intestines ; conveying out of the system, by the agency of the discharges, the morbid material presumed, with great probability, to contain the specific virus of the disease. The intestinal glands eliminate the poison. The object of the second is clear.

Fourth day, 10 A.M. : Temperature, 104° ; pulse, 135. Under the combined influence of pure air, sunshine, light and cleanliness, and the eliminating organs doing duty, the stupor has passed off. Patient answers questions quite well ; flies creeping over his

face attract attention — in fact, a change is apparent to all. What produced it? Cleanliness, in all its virgin purity. The surface of the patient was sponged with tepid water three times a day. The kidneys secrete a sufficient quantity of urine. Treatment continued.

Sixth day, 7 o'clock, P.M.: Temperature 104, pulse 130, bowels moved three or four times during the last twenty-four hours, answers questions well but is soon asleep; passed about xxiv $\frac{3}{4}$; it contains a large amount of excreta; destruction of tissue is rapid, as shown by the high temperature, and the amount of excreta contained in the urine. Ordered Doveri, grs. v; camphor pulv., grs. ij, every four hours during the night, to allay nervous irritability. Ordered the following during the day:

B.	Acid sulph. arom., -	-	-	-	-	-	gts. xx;
Quinia sulph.,	-	-	-	-	-	-	grs. ss;
Aquaæ mentha pip.	-	-	-	-	-	-	$\frac{3}{4}$ i;

Given every four hours during the day.

Seventh day, 9 A.M.: Temperature 103; pulse 130; bowels moved twice during the night; rested quite well during the night; tenderness on pressure over the abdomen; will take no nourishment only milk and lime water, in small quantities at a time—he says "I don't want any thing to eat; I am not hungry." And now having secured the elimination of the poison in some degree, we must bear in mind, this man must eat to live; we must supply material to repair the excessive tissue-change that has taken place. The indication now is — obviate the tendency to death; support, feed. As I cannot see my patient every day, I order him wine, beef-tea, egg-nog, milk-punch, in such quantities as I think will be digested and assimilated; in fact, any thing which contains the elements of nutrition. Again feed; don't wait for the call of the typhoid case, or he may starve to death:

B.	Acid sulph. aromat., -	-	-	-	-	-	gts. xx;
Quinia sulph.,	-	-	-	-	-	-	grs. j;
Aquaæ mentha pip.	-	-	-	-	-	-	$\frac{3}{4}$ i; M.

Every four hours during the day.

Doveri in five-grain doses at night, as often as may be required to secure sleep. I don't care so much for medicine, so-called, as I do that the patient receives proper nourishment. Calomel, jalapa, or any other infernal mixture, never rebuilt the smallest part of a simple cell.

Ninth day, 9 o'clock, A.M.: Temperature, 102° ; pulse 115; rests well at night; bowels moved three times during the last twenty-four hours. Ordered treatment continued; surface to be sponged night and morning; bed-clothes must be changed every other day; all discharges must be removed at once, vessels to be rinsed with a solution of carbolic acid.

Eleventh day, 6 o'clock, P.M.: Temperature $102\frac{1}{2}^{\circ}$; pulse 120; bowels moved very often during the night; discharges mostly bloody, evidently containing sloughs of Peyer's patches. Ordered opium in half-grain doses, every three hours, until diarrhoea is restrained; wine and milk-punch at stated intervals during the night.

Twelfth day, 8 o'clock, A.M.: Temperature 101° ; pulse 105; has rested some during the night; no blood in the discharges this morning. Complains of being hungry; answers questions quite well. Ordered bread and milk diet, in such quantities as may seem harmless to the good judgment of the nurse; the acid mixture, with quinia, every four hours during the day; opium, 1 gr. at night, repeated every four hours, using only sufficient to secure sleep, taking care not to narcotize the patient.

Fourteenth day, 9 A.M.: Temperature 100° ; pulse 98; rests well during the night; no diarrhoea; calls for food quite often; patient evidently thinks he must eat to live. As digestion of food is good, I now begin to withdraw the wine, giving plenty of sweet milk (and I don't take off the cream). Nurse reports remissions of the fever in the evening. Medicine is only a secondary object now; quinine 2 grs., every four hours during the day.

Sixteenth day, 10 A.M.: Temperature $98\frac{1}{2}^{\circ}$; pulse 84; bowels moved twice a day; complains of no pain; eats well. Treatment continued.

Eighteenth day, 8 A.M.: Temperature 96° ; pulse 75; no fever; bowels moved once in the last twenty-four hours. No tenderness in the iliac region; sleeps well during the night; eats like a plow-boy. Treatment, quinia and acid.

Twentieth day, 10 A.M.: Temperature 98° ; pulse 80; tongue is cleaning off; patient sits up, looking at his long, bony arms; says he thinks there is room for improvement. Can form no idea how long he has been sick, or what has happened; rests well at night; digestion good and rapid; fever has evidently run its career:

B Nitro-muriatic acid, - - - - - gts. xx

Three times a day. To be given in sugar and water.

Ordered the patient to be well fed.

Twenty-second day, 9 A.M.: Temperature 98°; pulse 80; rests well at night; tongue is cleaned off; has had no fever since my last visit; no tenderness on pressure over the abdomen; I consider there is no need to give the patient medicine now, and tell him so.

Now, let us look over the history of the case. I contend that typhoid fever was brought on in this case by filth, for the following reasons: There was not a case of typhoid within ten miles of his residence; there were no other cases of typhoid in his vicinity during the past fall. Of five persons who lived in the house, four contracted typhoid fever; all of the same virulent nature. And I will warrant to get up cases of typhoid fever to order for any one who wishes to make the experiment of living over the accumulated filth of years (during the summer months).

A word in regard to my plan of treatment. It may seem to some that my plan of treatment was simple; I think so too. Had I treated the case according to the name of the disease, the case would have slipped through my digits. Never treat a case according to its name or location, but according to what is the matter; referring, at all times, the treatment of the disease to the cause of the disease and the particular stage of the disease. What were the indications in this case? Eliminate during the first stage; obviate the tendency to death, and furnish material to repair the excessive waste of tissue that is going on. Nature removes the poison by elimination. We are but nature's hod-carriers; we furnish the bricks and mortar, nature repairs the structure. In treatment of typhoid fever, keep in view the grand fact, you cannot make something out of nothing.

ARTICLE VII.—*Absence of the Ductus Communis Choledochus.* By I. N. DANFORTH, M.D., Chicago.

SEVERAL years ago, while in practice in a New England town, I was employed to attend a woman in her third confinement. After an easy and natural labor of some four hours duration, she was delivered of a well-developed boy, weighing a little over nine pounds. For the twenty-four hours after birth, the child betrayed no abnormal symptoms. At my next visit, however (about thirty hours after delivery), I noticed an icteric appearance of the countenance, and upon closer inspection, a well-marked yellow tinge of the whole surface was discovered. The nurse informed me that the discharges from the bowels were "almost like clay," and that the child had frequent attacks of vomiting. During the afternoon of the succeeding day (nearly sixty hours after birth), the skin had assumed an intensely yellow color, and the stomach was in a very irritable condition; at the same time, there were evident indications of hunger—the child would seize the breast with avidity, but would almost immediately forsake it in disgust. The symptoms continued to grow worse; the color of the skin to changed to a brownish-yellow or bronze; the irritability of the stomach increased; convulsions supervened, and, in about twelve hours after my second visit, or seventy-two hours after birth, the child died in a state of profound coma.

Sectio cadaveris.—The tissues throughout the body were stained intensely yellow. The heart, lungs, stomach, intestines, spleen, and kidneys were all perfectly developed and healthy. The liver was swollen and enlarged, and this was evidently due to distension of the biliary ducts, as, upon cutting into it, an unusual amount of very thick bile oozed from the cut surfaces. The gall-bladder occupied its normal position, and was enormously distended with bile of about the consistency of syrup. The cystic and hepatic ducts presented nothing unusual, except that they were very much enlarged, a point I shall allude to again; they united at the usual place to form the common duct. The *ductus communis choledochus*—also very greatly distended—was about three-quarters of an inch long; it then terminated abruptly, in a very blunt club-shaped extremity, without reaching the intestinal canal at all.

Of course, the symptoms and cause of death were at once solved, upon making this remarkable discovery. The end of the duct presented a curious appearance ; one might almost imagine that it had been suddenly cut off with a sharp instrument. Scarcely could a round billet of wood be sawn off with more accuracy and neatness.

I have already mentioned the great distension and enlargement of all the ducts. I could, without difficulty, pass my finger into the gall-bladder, through the cystic duct. Upon this point, Rokitansky remarks (*Path. Anat.* Vol. II., p. 124) : "The gall-ducts are capable of extensive distension."

I have not been able to find any such case upon record, although I have carefully examined such authorities as came within my reach. Jones and Sieveking remark (*Path. Anat.*, p. 525) : "The gall-bladder is sometimes wanting — in animals it has been found double ; its shape may be variously deformed ; its duct, as well as the common duct, may probably be imperforate." It is quite possible, however, that analogous cases may be found in medical journals of this, or other countries, which have escaped my notice. But such cases are sufficiently rare to warrant the publication of all which do unfortunately happen.

Foreign Correspondence.

PARIS, December 30, 1869.

In a medical way every thing is now in full tide. The various learned societies are more or less occupied with discussions on the transmission of syphilis by vaccination ; on the treatment of syphilis by mercury, or by hygiene, tonics and time.

A new chair, entitled, "History of Medicine," has lately been created at the medical school, after a somewhat stormy discussion among the professors.

One of the clinical professors of the faculty, on his return from his summer vacation, being informed that his house physician was having fair success in the treatment of typhoid fever by the

cold douche, said that he knew something far more efficacious. It consisted in putting the typhoid patient into a cold bath, and gradually reducing the temperature to a low degree. This was done to three unfortunate individuals, who very soon succumbed, and the professor quietly renounced his unsuccessful experiment.

As there is nothing of great interest to write concerning hospital service, we will give a part of a report presented at the Academy of Sciences, on the 6th of this month, by M. Andral, concerning the variations of temperature of the human body, with variations of some of the principal constituents of the blood.

The temperature was taken in the axilla. He said that when the blood contains more than four thousandths of fibrin the temperature rises. That the temperature and fibrin augment in direct proportion to each other. Thus, of all diseases which increase the quantity of fibrin, pneumonia causes the greatest excess, and it is this disease also which produces the most heat. In 85 cases of pneumonia, 13 times he found the temperature below 39° centigrade;* 44 times from 39° to 40° ; 21 times 40° ; once 41° ; twice $41^{\circ}2'$.

In acute pleurisy he has always found the quantity of fibrin less than in pneumonia, and has seen the temperature only exceptionally surpass 40° , presenting for a maximum, in one case only, 41° . Most ordinarily it vacillated between $39^{\circ}5'$ and $38^{\circ}5'$.

In acute capillary bronchitis the fibrin is generally less than in pleurisy, and the temperature he has never seen exceed 39° .

In acute articular rheumatism, which, next to pneumonia, augments the most the quality of fibrin, he has never seen the temperature reach 41° . In this disease the maximum seen was $40^{\circ}5'$; generally it is between 39° and 40° .

Finally, although in some cases of acute pulmonary phthisis the temperature may reach $40^{\circ}5'$, it remains, in ordinary cases that have reached the stage of continued fever, between 38° and $39^{\circ}5'$, which is in rapport with the fibrin; the latter maintaining itself between four and five thousandths. This general fact has, nevertheless, its exceptions. Thus, in erysipelas, where the highest quantity of fibrin found was $\frac{7}{1000}$, he has seen the temperature rise to $41^{\circ}8'$. In other cases of the same disease it was $41^{\circ}2'$,

* All the degrees here used are centigrade. If the editor chooses, can give the rule for reducing centigrade to Fahrenheit.

40°6', 40° and 39°. Other phlegmasias have presented similar exceptions — thus, 40° with only $\frac{4}{100}$ of fibrin. There are, nevertheless, very large quantities of fibrin which he has only found with certain very high degrees of temperature. Such is the number 10, which he has only seen appear when the temperature had surpassed 40°. But, one may ask, what kind of rapport exists between this simultaneous increase of heat and fibrin? Is it a simple coincidence? Is it casualty? To this question the answer is easy, on account of there being one large class of diseases — pyrexias — in which the fibrin rests in its physiological limit, can even descend below it, and where the temperature is as considerable, and perhaps more, than in the phlegmasias which characterize an augmentation of fibrin. It is, in fact, in these pyrexias that he has found the maximum of temperature, viz.: 3 times 42°; once 42°4'. He found this last degree in a case of typhoid fever; that of 42° in the primary fever of variola, in the period of heat of an access of intermittent fever, and in a case of glanders in man.

He says that the fibrin does not augment in eruptive fevers; and, nevertheless, he has found, in the invading fever of small-pox, as a minimum of temperature, 40°; after, the numbers 40°5', 40°9', 41°, 42°; that is to say, numbers equal or superior to those observed in diseases where there is the greatest increase of fibrin.

In the invading fever of scarlatina he has found the temperature oscillating between 39° and 40°7'. It was less in measles, maintaining itself in the invading fever between 39° and 37°7', and during the eruption between 38° and 40°5'.

From these results, he says, we may conclude that the increase of fibrin and of temperature are only two facts, which, in certain diseases, are produced together, without one depending on the other; that there is so little between these two facts, a rapport of causality, that the augmentation of temperature is raised to its highest degree, in the morbid states of which one of the characters is a tendency to a diminishing of the plastic element of the blood.

He next examined the question, Does the quantity of globules exercise any influence on the temperature? The facts which are going to be exposed show that a diminution, even very great, of the number of globules, does not cause the temperature to

descend below the inferior limit of a physiological state. Sometimes, then, we see it approach this inferior limit; at other times rise towards the superior limit, and even surpass it a little.

A woman reduced by frequent and abundant haemorrhage, caused by uterine cancer, had no more than 21 parts of globules in her blood; nevertheless, her temperature continued at 37°.

A man, very anaemic from long mercurial treatment, had only 87 globules in his blood. His temperature was 36°7'.

In a case of saturnine cachexia, where the number of globules were not more than 83, the temperature had risen to 38°.

A patient, affected with scurvy, had only 44 globules in his blood; nevertheless, he had a temperature of not less than 38°.

In chlorosis the same fact is seen; and, whatever may be the diminution of globules, the temperature does not descend below the physiological state, but, sometimes, even rises above it.

A chlorotic woman, who had 38 grammes of globules for 1,000 grammes of blood, had, notwithstanding, 37°9'.

The following table, proving the above assertions, shows number of globules and the temperature taken from twenty chlorotic persons:

GLOB.	TEMP.	GLOB.	TEMP.	GLOB.	TEMP.
38.....	37 9'	62.....	37 9'	104.....	37 0'
46.....	37 9'	64.....	37 0'	104.....	38 0'
48.....	38 4'	77.....	37 5'	112.....	37 7'
49.....	38 0'	86.....	37 5'	112.....	37 5'
49.....	37 6'	95.....	37 3'	113.....	38 0'
54.....	37 7'	97.....	38 1'	117.....	37 7'
56.....	38 0'	99.....	37 9'		

With these 20 cases the minimum degree was 37, and this only twice; with three it was 37°5'; with the 15 others it was between 37°6' and 38°4', without, in any case, the existence of an intercurring inflammatory lesion explaining these elevated numbers.

These facts prove, in a physiological point of view, that the red globules of the blood can vary much in quantity without the animal heat being modified; that, in a pathological point of view, these maximums of normal temperature, and even these commencements of morbid temperature with a certain number of chlorotic persons, enable us to comprehend those sensations of troublesome heat, as if febrile, which many of them *éprouve*, and

justifies, to a certain degree, the expression of "Fever of Chlorotic Persons," employed by some nosographs.

In my next shall expose his views in regard to albumen and urea.

A. W. BOSWORTH.

PARIS, January 13, 1870.

Albumen.—In my last, I promised you the rest of M. Andral's report to the Academy. He said that when the albumen of the blood, instead of being completely employed for nutrition, is in part lost for it by its being passed off in the urine, theory would seem to indicate that less heat should be produced; and some facts here mentioned would authorize, if they were more numerous, that such were really the case.

In seven cases of albuminuria, where he noted the temperature, there were two having temperature notably below the normal state, being from 35° to $35^{\circ} 3'$; in thirty other cases, the temperature was from 36° to $36^{\circ} 5'$; in two cases there was elevation of temperature, being 38° to 39° . Of these two latter cases, in the first the albuminuria was complicated by an acute inflammation of the lymphatic glands of the neck, which terminated by suppuration. In the second, the temperature was taken at the beginning of the disease, which, contrary to the general rule, had signalized its apparition by symptoms of acute nephritis, with complication of erysipelas of the face; consequently, these two cases were only in apparent discord with the fifty others, their elevation of temperature having a sufficient cause.

The pathology of facts which he mentions prove that it is not immediately, but, on the contrary, after some time, that the insufficient albuminous material decreases the temperature in an appreciable manner. Thus, with convalescents who have just undergone dieting for a few days, we do not find the temperature so much diminished as might be expected. The lowest degree found in such cases was $36^{\circ} 7'$; it was usually 37° , or between 37° and $37^{\circ} 5'$.

The author has often been surprised to find that heat remained physiologically normal with patients affected with cancer of the stomach, who daily vomited the greater part of their food. Nevertheless, a moment arrives when the temperature, after having

long been maintained at a normal degree, in spite of almost complete absence of reparatory substances, diminishes suddenly. He has seen it thus fall in twenty-four hours from 37° to 35° .

These facts are in accordance with the experiments of Chossart. The animals, which he caused to die of hunger, maintained their normal temperature till two or three days before death, when it suddenly diminished.

Urea.—To decide whether urea contained in the urine augments during febrile diseases, is a much-discussed question. It is difficult to decide if we attempt to take for a starting-point the normal quantity of urea said to be in the urine, because that is yet only known in a very uncertain manner. Thirty grammes of urea for every 1,000 grammes of urine, given formerly by Berzelius, is evidently too high. Andral thinks from 10 to 14 and 15 grammes is the most that can be admitted. He believes to obtain more accurate results by examining comparatively the quantity of urea of patients having a normal temperature with those having it augmented. In fifty-three of the former cases, he only found eight times more than 8 grammes of urea to 1,000 grammes of urine, viz.: 14, 17, 22 and 23 grammes, in four cases of organic disease of the heart; 19 grammes, in one case of cancer of the stomach; 20 to 22 grammes, in three cases of cirrhosis of the liver. In the forty-five other cases, which only had absence of fever as the only similarity, the greatest quantity of urea was 12 grammes; the minimum, 4 grammes. In these fifty-three cases, the urea often varied in a notable manner, in the same patient, at short intervals. Ex.: In a case of disease of the heart, it was, within a few days, from 4 and 8 to 22 grammes. If we now compare the preceding cases with those having fever, we find with these latter a greater quantity of urea, a greater constancy of this quantity, and, in general, a proportional rapport between the quantity of urea and the degree of temperature. In these affections, all pyretical, he found, as a maximum of urea, 40 grammes—this in a case of urticaria, with much fever.

One of the morbid states in which the temperature is seen to rise most, is intermittent fever. In twenty-three cases of this fever, he found the urine to contain eleven times from 20 to 32 grammes of urea; nine times, from 16 to 20 grammes; twice, only, to fall below this last number, being once 11 grammes and once 13.

In pneumonia, the urea vacillated between 20 and 29 grammes, with the exception of one case, where it was only 9 grammes. In this latter case, the pneumonia affected only a small number of lobules, and there was very little fever.

Pleurisy, which augments less the temperature than pneumonia, gives, also, less urea. In pleurisy, its maximum was 18 grammes; then came the numbers 14 and 15.

In acute articular rheumatism, he found, when the fever augmented, there was, at the same time, an increase of urea, of which was found 18, 19, 20, 27, and 31 grammes. When the fever decreased, there was then only 16, 15, 14 grammes of urea. When it had completely ceased, the urea descended from 14 to 8 grammes; finally, after six weeks or two months, the patients, weakened by prolonged dieting, by extraction of blood, by pain, returned slowly to health, the urea, still diminishing, fell sometimes to 6, 5, 4, and even 3 grammes.

He had only three cases of *typhoid fever* to present. Here, also, the urea augmented with the temperature, and decreased with it. In the first case, when the temperature was 40° , there was found 28 grammes of urea in the urine. In the two other cases, when the temperature was taken in the decline of the disease, and was $38^{\circ}5'$, there was only 13 and 12 grammes of urea. From these cases, he is unwilling to accept the opinion of some authors, who state that, in typhoid fever, the urea diminishes instead of increasing.

We must not forget that diet acts in an opposite manner to fever; therefore it may happen that, when the fever has lasted a long time, the urea, without ceasing to be considerable, becomes less, the elevation of temperature resting the same.

He possessed only one analysis of the urine for eruptive fevers, which was confirmative of what has been here asserted. The urine contained 30 grammes of urea on the second day of the invading fever of variola.

The fever of phthisical patients offers a temperature generally inferior to that of the acute inflammations of fevers, and also gives a less quantity of urea. The greatest quantity found in phthisis was 14 grammes; the most frequently, 8 to 12 grammes; and, with some patients affected by this disease, when, having arrived at the last degree of marasmus, the urea had decreased, in spite of the fever, to 6, and even 4 grammes.

The radical weakening of the constitution, the prolonged, insufficient alimentation, the daily losses of expectoration, perspiration and diarrhoea, can explain how alone of all the febrile diseases, pulmonary tuberculation can raise the temperature, without always augmenting the urea.

It is more difficult to explain those inverse cases where, the temperature resting normal, the urea accidentally rises to those quantities found in a febrile state. The most diverse affections can present this anomaly, which must depend on some individual disposition of the patients.

There is, nevertheless, one morbid state, cirrhosis of the liver, in which, in the cases where he examined the urine, he found the urea increased. If other observations should confirm these results, we must conclude that, contrary to the other apyretic maladies, cyrrhosis of the liver increases the secretion of urea, not accidentally, but by its nature. If this exception exists, what may be its cause? Can we suppose that the azotized material of the bile, which, no longer being able to leave the blood through the altered tissue of the liver, finds a supplementary exit of elimination in the kidneys? This would be the inverse of what occurs when M. Claude Bernard, suppressing the renal secretion, finds an unusual quantity of highly azotized matter in the interior of the digestive canal.

M. Bouillaud then addressed the Academy, remarking that the results of his long researches perfectly coincide with what M. Andral had said.

Mr. Editor: In my next I may possibly give you some notes from Brown-Sequard. He is now lecturing on epilepsy. His course is not so well attended as might have been expected.

With kind regards, I remain your humble servant,

A. W. BOSWORTH.

THE WOMB, according to Plato, "is a wild beast that obeys no reason, but which, when its desires are unsated, wanders about within the body, and excites all sorts of irregular motions." "Our ancient brethren," says Dr. Taliaferro, "believed the uterus to possess an independent existence, and the body to be but a cage for its confinement."

Editor's Book Table.

[NOTE.—All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. Keen and Cooke, whose catalogue of medical books will be sent to any address upon request.]

Obstetric Aphorisms, for the use of Students Commencing Midwifery Practice. By JOSEPH GRIFFITHS SWAYNE, M.D., Physician Accoucheur to the British General Hospital. From the Fourth and Revised London Edition, with Additions by E. R. Hutchins, M.D., with illustrations, in one neat royal 18mo volume; extra cloth. Chicago: W. B. Keen and Cooke.

"THE object of this little volume is to afford that kind of practical information which is required by the student or junior practitioner who is called upon for some acquaintance with the management of ordinary cases of labor. It has been undertaken by the author in accordance with a wish, often expressed to him by his pupils, and is founded upon his experience of the wants of those who are commencing midwifery practice. The very marked success which the work has met in England shows that he has succeeded in carrying out this object; and it is presented to the American profession in the hope that it will fill a similar want here of a volume which should present, in a concise form, and disengaged from unnecessary detail, the leading points of midwifery."

"The editor has added a few notes, and two chapters—one on abortion, and the other on the management of the new-born child, which seemed requisite to give completeness to the work."

Readers of the JOURNAL will recognize in the name of the American editor of this book, one of the frequent contributors to our pages within the last two or three years.

It is really a capital little compendium of the subject, and we recommend young practitioners to buy it and carry it with them when called to attend cases of labor. They can both while away the otherwise tedious hours of waiting, and thoroughly fix in

their memories the most important practical suggestions it contains.

The American editor has materially added, by his notes and the concluding chapters, to the completeness and general value of the book.

A Manual of Clinical Medicine and Physical Diagnosis. By THOMAS HAWKES TANNER, M.D., F.L.S., etc. Third American. From the Second English Edition. Revised and enlarged by Tilbury Fox, M.D., Physician University College Hospital, London. Philadelphia: Henry C. Lea. 1870. Pp. 366. 18mo. Chicago: W. B. Keen and Cooke.

How to find out: WHAT IS THE MATTER? is usually the most puzzling thing for the student, and a thing, unfortunately, too many old practitioners neglect.

As a concise and yet clear manual of what to observe, and how to make up a diagnosis from the facts presented, we cordially commend this little book as excellently well adapted for the every-day use of both students and practitioners.

Pamphlets.

Braithwaite's Retrospect. Part LX. January, 1870. Uniform American Edition. Pp. 329. New York: W. A. Townshend & Adams, Publishers. \$2.50 a year in advance. Postage prepaid. Half-yearly parts, \$1.50.

The American Journal of Obstetrics, and Diseases of Women and Children. Edited by Drs. NOEGERATH, DAWSON and JACOBI. Quarterly. \$4.00 a year. Postage free. Single copies, \$1.25. W. A. Townshend & Adams, New York.

QUITE a number of monographs, etc., have been received, which want of space compels us to defer notice of until next month.

Editorial.**Rush Medical College.**

THE Twenty-Seventh Annual Commencement took place Wednesday evening, February 2, 1870, with the following order of exercises:

1. *Prayer*, by Rev. W. H. Van Doren, D.D.; 2. *Music*; 3. *Conferring Degrees*; 4. *Charge to Graduates*, by the President of the Faculty; 5. *Response*, by William R. Aydelott, of the Graduating Class; 6. *Music*; 7. *Valedictory*, by Prof. J. Adams Allen; 8. *Benediction*.

NAMES OF GRADUATES:

Lyman J. Adair,	Iowa.	Hamilton P. Duffield,	Ill.
Wm. R. Aydelott,	Ind.	Richard J. Eaton,	Ill.
Geo. H. Aurner,	Ill.	Milton H. Everett,	Ill.
Thomas J. Adams,	Ind.	William C. Riehelberger,	Ind.
George Theodore Acers,	Iowa.	Robert S. Edgar,	Ill.
D. Bryan Baker,	Ill.	Perry M. Evans,	Ill.
C. A. Barnes,	Ind.	Abel Ford, Jr.,	Mich.
Fred. T. Bicknell,	Wis.	William E. Fenwick,	Mich.
L. Lafayette Bond,	Wis.	Edward R. Fletcher,	Min.
John Ellison Best,	Ill.	George S. Focht,	Iowa.
Gilbert E. Bridgeman,	Can.	S. Campbell Fenton,	Ind.
John Bloomingstone,	Ill.	William Fox,	Wis.
Cyril P. Brown,	Mich.	Benjamin F. Farley,	Ill.
Albert D. Ballou,	Wis.	Augustus H. Guernsey,	Wis.
William J. Burns,	Wis.	John Green,	Ill.
David O. Bennett,	Wis.	George Green,	Ill.
Thomas Blakeslee,	Ill.	Strader S. Goldsberry,	Ind.
William M. Boyd,	Ill.	Samuel W. Gould,	Ind.
William L. Crowder,	Iowa.	John W. Goe,	Wis.
Wilson C. Carver,	Ill.	Joseph C. Gifford,	Ind.
Paul H. Curtner,	Ind.	Jesse T. B. Gephart,	Kan.
Thomas Coates,	Iowa.	O. G. Given,	Kan.
James McNab Cassels,	Can.	William Henry,	Ill.
Lafayette W. Case,	Iowa.	Benjamin R. Helms,	Ind.
Howard C. Crist,	Ill.	Geo. Washington Hudson,	Ill.
Michael J. Donnelly,	Col'o.	William Harvey,	C. W.
Samuel W. Durant,	Ill.	Frederick C. Hageman,	Ill.
Samuel T. Davis,	Ill.	Marcus M. Hale,	Ind.
Isaac R. Dunning,	Mich.	Thomas A. Holman,	Ill.
Edward F. Dann,	Wis.	Bishop B. Kelley,	Neb.
Daniel L. Dakin,	Mich.	Adrian A. Kitchingman,	Wis.

Chicago Medical Journal.

Horace R. Littlefield,	Ill.	Benjamin T. Phillips,	Wis.
August Liljencrantz,	Wis.	William B. Porter,	Iowa.
Ledyard Verdine Lewis,	Wis.	Judson C. Panter,	Ill.
Clark Leal,	Ill.	Charles E. Quire,	Iowa.
Benjamin F. LaRue,	Min.	James C. Reynolds,	Wis.
John M. Lester,	Cana.	James W. Reeder,	Ill.
Frank L. Lewis,	Min.	Charles W. Russell,	Ind.
Allen R. Law,	Wis.	Walter F. Randolph,	Ill.
Lawrence A. Laurason,	Mich.	John Wiley Snider,	Ind.
Stephen W. Lee,	Ill.	Zachary T. Stanley,	Ill.
Phineas I. Mulvane,	Ill.	William H. Stewart,	Ohio.
William L. McLane,	Ill.	Theophilus Sprague,	Ill.
Her. Walter Morehouse,	Ill.	William M. Smith,	Ill.
Andrew J. Moore,	C. W.	Henry C. Soule,	Wis.
George P. Morey,	N. Y.	James B. Stetson,	Ill.
Pierre L. Monast,	Ill.	H. Watson Smith,	Wis.
James A. Matthews,	Mo.	Conrad Secrest,	Ill.
Samuel Miller,	Min.	Lewis A. Snyder,	Ind.
Simon P. Morse,	Ill.	John H. Stewart,	Ill.
D. H. McFarland,	Ind.	Jacob D. Smith,	Ill.
Albert B. Modesitt,	Ind.	John T. Scott,	Ind.
William O. Mendenhall,	Ill.	John W. Tope,	Ohio.
Henry M. Marvin,	Mich.	Samuel L. Tyner,	Ind.
William J. Moore,	Ill.	J. Austin Thompson,	Iowa.
Charles D. Manning,	Iowa.	William Todd,	Cal.
Julius A. Morris,	Ohio.	Leonard P. Woodworth,	Wis.
T. Fletcher McFarland,	Ill.	Delinso A. Walden,	Ill.
George B. Noyes,	Ill.	Charles A. Wilcox,	Ill.
Oliver C. Ormsby,	Utah.	John C. Webster,	Ind.
Milo Place,	Ill.	Albert Wilgus,	Ind.
Lewis C. Page,	Ind.	John C. Waite,	Ind.
William H. Palmer,	Ill.	Gideon A. Weed,	Cal.
Francis M. Pickins,	Ind.		
Robert O. Purviance,	Ill.		

AD EUNDUM DEGREE.

Richard H. Plummer, M.D.,	Cal.	David Dodge, M.D.	Ill.
Louis Stoskof, M.D.,	Ill.	J. F. Grimes, M.D.,	Iowa.

HONORARY DEGREE.

Andrew McFarland, M.D.,	
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The spacious lecture-room was crowded, and great enthusiasm was manifested, culminating in repeated and tempestuous rounds of applause, when Dr. J. R. Dosch stepped forward and presented the veteran Prof. Freer, on behalf of the graduating class, with an elegant gold-headed cane. Dr. Dosch's remarks were in excellent taste, and Prof. Freer, although taken wholly by surprise, responded with feeling and eloquence.

We chronicle this Commencement as one of the most pleasant and auspicious in the history of the College.

Alumni Meeting.

THE second annual meeting of the Alumni of Rush Medical College was held, February 2, at that institution. The meeting was called to order by the president, Dr. Alfred E. Ames, of Minneapolis, Minnesota. Dr. W. C. Hunt, secretary, read the minutes of the last meeting, which were adopted.

President Ames then delivered the annual address, which, we have only space now to say, was exceedingly able and interesting, and was listened to by a large audience with profound attention, except when interrupted by frequent applause.

The following-named officers were elected for the ensuing year:

President — Dr. Abner Hard, of Aurora, Illinois.

First Vice-President — Dr. R. C. Hamill, of Chicago.

Second Vice-President — Dr. V. L. Hurlbut, of Chicago.

Treasurer — Dr. F. A. Emmons, of Chicago.

Secretary — Dr. Samuel Cole, of Chicago.

Executive Committee — Prof. E. Ingals, chairman; Dr. Charles Parkes, Dr. S. J. Avery.

Profs. Miller and Allen, and Dr. W. C. Hunt, were appointed a committee on necrology.

The exercises were concluded by a highly successful series of experiments, illustrative of arterial pressure, transfusion, etc., by Prof. J. W. Freer, of which we hope to have a complete report hereafter. The annual reunion was a pronounced success.

Diplomas for Sale.

SOME time last year, we referred to the fact that an agency for a certain "University" in Philadelphia, had been established in this city for the sale of diplomas of M.D., and we had authority for saying that several persons in this city and the surrounding country had availed themselves of the opportunity for their purchase. We have in our possession original documentary evidence of this fact.

It becomes now our unpleasant duty, as a patriotic citizen of Chicago, to say that our enterprising neighboring city of Milwaukee has, for once, beaten Chicago at this game.

From a rejoicing applicant, we have received the following papers which fully explain themselves. (We omit the name of

the philanthropic "agent," as we do not propose to advertise him except at our regular rates, as established by the publisher).

The first is a card, with this on the obverse :

THE MILWAUKEE MEDICAL AND SURGICAL INSTITUTE, (Chartered by the Legislature of Wisconsin), office, corner of East Water and Mason Streets.

Collegiate Agency. — This agency has been established for the purpose of giving such information as is necessary, before taking any of the learned degrees in arts, science, law and medicine, and represents some of the best universities in America and Europe.

By or through its recommendation, the degrees of A.M. (Master of Arts), A.B. (Bachelor of Arts), LL.D. (Doctor of Laws), M.D. (Doctor of Medicine), D.D.S. (Doctor of Dental Surgery), etc., may be legitimately conferred.

For particulars, address the Principal.
MILWAUKEE, WIS.

And this on the reverse :

"Many States have passed laws prohibiting physicians, who are not graduates, from practicing medicine, collecting fees, or giving evidence in court on medical matters. All the other States will soon pass similar laws. Similar qualifications are required of surgeons of the U. S. Army. In view of the agitation of this question, and the facts that no physician without a diploma can be fully recognized as a *bona fide* member of the profession, and that it is a passport to good fellowship with his professional brethren and the confidence of the community, every practicing physician should be able to produce this badge of his profession."

The next is a printed circular, with same heading :

[CONFIDENTIAL.]

DEAR SIR:—In reply to frequent inquiries on the subject, by physicians, the following is published for the information and guidance of those seeking diplomas through the agency of this institution:

1. It is not the intention or object of the agency to confer degrees upon improper or incompetent persons.
2. The principal object of the agency is to secure, for the schools in which we are interested, students prepared to attend their second course of lectures. All schools feel a pride in exhibiting a large graduating class. Those schools which we represent being among the best in the country, the advantage is mutual.
3. The requirements for graduation, in all these schools, are three years' study, and two full courses of lectures.
4. In cases where it seems justifiable, some of the schools have decided to depart from this last rule, in so far as to confer diplomas upon physi-

cians who, although they may not have attended two full courses of lectures, have had sufficient experience in the study and practice of medicine to compensate for the deficiency. Five years' reputable practice without having attended lectures, or one course of lectures and three years' reputable practice, are considered as an equivalent. No one can doubt but that a physician who has been engaged in active practice for five or more years, is as much entitled to the degree of M.D., as three-fourths of the raw students who are graduated by all universities at the end of their second course.

This action of the schools, however, being "irregular," and rival schools always ready to seize upon any pretext to injure their reputation, it is necessary that the faculties should not be approached upon the subject; but all business of the kind must be strictly confidential, and transacted through their private agents, of whom we are the only one in the North-west.

5. It will be seen that we do not confer the degree, but act merely as a go-between the candidate and the schools. The transaction is closed when the diploma is conferred; and those who apply for and receive this information are bound in honor to regard it as confidential, whether they avail themselves of the privilege or not, and their application, on our part, will ever be held in sacred confidence.

6. EXAMINATIONS.—Examination of candidates for graduation may be by actual oral examination, by us, at the institute, in which such questions, etc., are propounded upon therapeutics, surgery, obstetrics, *materia medica*, chemistry, anatomy, etc., as would be asked by the faculty in the "green room."

Otherwise the examination may be merely *pro forma*; the presentation to us of proper evidence that the applicant has attended one course of lectures and practiced three years; or has practiced five years; a certificate from any medical society, or any two well known or respectable physicians (graduates) that he is a competent person to engage in the practice of medicine, will be accepted by us as *prima facie* evidence that he is properly qualified and we will file these credentials with the faculty, report that "we have examined the applicant, etc., and recommend him for graduation."

The third is an autograph letter, with same heading:

DEAR SIR:—Yours received. I can procure you a degree of M.D., without your leaving home, from one of the medical universities of Philadelphia. You must leave the selection of the school to me, as all of them do not grant degrees in this way. It will be from a respectable, well established and chartered school, signed and sealed by the faculty and officers, and your name enrolled on the college books—every thing the same exactly as if you went there and attended a course of lectures, and graduated; and in case of any difficulty, you may refer to the faculty, or in your cards.

The entire expense, including every thing, will be \$150.00; of which amount, \$50 must accompany the application, and when the diploma is sent, which will be within two weeks, it will be C. O. D., the balance \$100; or you can send the full amount at once, and it will be sent.

The certificates, etc., may be dispensed with, on my recommendation but it will facilitate matters if you can send them. Yours truly,

We beg leave to add only, at present, that medical legislation, thus far does not appear to have elevated the profession to any very admirable extent.

Ancient Sanitary Regulations.

As early in the history of England as A. D. 1500, the scavengers, constables and wards of the city of London were ordered, "on pain of death," to see all streets and yards kept clear of dung and rubbish, and all other filthy and corrupt things. Carts went round every Monday, Wednesday and Saturday, to carry off the litter from the houses, and on each of these days twelve buckets of water were drawn for "every person," and used in cleaning their rooms and passages.—*Guildhall MSS., quoted by Froude.*

Unique Diagnosis.

A FRIEND in DuQuoin sends us the following specimen of professional forces acting at a distance :

DUQUOIN, Illinois.

* * Received your letter dated August 22. Inclosed please find two vials of medicine, to be taken, according to direction, during the day. Commence with vial No. 1 and when finished with vial No. 2.

Your disease is a slimy upset on lungs and liver, general prostration of the whole nervous system, some hectic fever, dizziness in the head, pain in the sides and back, not much appetite, and no rest in night-time.

In regard to diet, nothing particular. Don't use strong drinks, as beer, wine or whisky.

Let me know, in fourteen days, what effect these medicines made on you.

Respectfully, * * .

Portrait of John W. Francis, M.D., LL.D.

THE publishers of the New York medical and psychological journals have issued a splendid steel engraving of the late eminent and venerated Dr. Francis. It is superb, both as a work of art, and as a "speaking likeness."

There are few names on the roll of honor of the medical profession in this country that can rank with that of Dr. Francis — none surpass. *Nihil tetigit quod non ornavit.* Illustrious in the quiet walks of literature, accomplished as a *savan*, he was the idol of his patients, and the brightest ornament of the social circles in which he moved. The publication of his portrait in such a beautiful style, is a compliment to his memory at once merited and graceful.

It should be hung in the office of every American physician who loves and honors his profession.

The Scientific American.

We welcome this organ and index of the industrial arts and sciences to our exchange list, with the coming in of the new year, and have already marked passages for reproduction in our pages.

This splendidly illustrated weekly journal of popular science, mechanics, invention, engineering, chemistry, architecture, agriculture, and the kindred arts, enters its twenty-fifth year on the first of January next, having a circulation far exceeding that of any similar journal now published.

The editorial department of the *Scientific American* is very ably conducted, and some of the most popular writers in this country and Europe are contributors. Every number has sixteen imperial pages, embellished with fine engravings of machinery, new inventions, tools for the workshop, farm and household, engineering works, dwelling houses, public buildings.

A journal of so much intrinsic value, at the low price of \$3.00 a year, ought to have, in this thriving country, a million readers.

Whoever reads the *Scientific American* is entertained and instructed, without being bothered with hard words or dry details.

Terms of *Scientific American* — One year \$3.00; six months \$1.50; four months \$1.00. To clubs of ten and upwards, terms \$2.50 per annum. Specimen copies sent free. Address the publishers,

MUNN & Co., 37 Park Row, New York.

We most cordially indorse the *Scientific American* as filling a space between the professional and general newspaper, with exactly the kind of information which every intelligent professional man desires. We do not know where to look for an equal amount of valuable information in so small a space, and at so low a price.

The Western Monthly.

Devoted to literature, biography, and the interests of the West. Published by the Western Monthly company, No. 18, Tribune Building, Chicago. \$3.00 per annum in advance.

This magazine has donned a new dress with the new year, and is filled with instructive and entertaining matter. We recognize articles from some of the ablest writers in the West. In its general appearance, size, arrangement, typography, etc., it closely resembles (*too* closely for our Western taste) the *Atlantic Monthly*; but there is a freshness, freedom and vigor about its contents which its heavy prototype at the "Hub" has not exhibited for many years. We take pleasure in recommending it as an especial substitute for the *Atlantic Monthly*, and similar "heavy weight" magazines from the far East.

The Pharmacist.

Our enterprising cotemporary commenced the new year under new auspices; Messrs. Ebert & Sargent, pleading the pressure of business cares, retire from its editorial management, in favor Mr. N. Gray Bartlett, who assumes its control. The new editor, well known as a writer and pharmaceutical chemist, will devote his entire time to his new vocation. In extending to him our hearty good wishes, in his new enterprise, we venture to express the opinion that, if he fills the position as well as did his predecessors, the *Pharmacist* will continue to be all that its most exacting readers could ask.

W. H.

The Earth Closet.

ATTENTION is called to the advertisement of this great improvement, on the second advertising page of this number. In the next JOURNAL will be found a full exposition of the subject.

To Contributors.

SEVERAL valuable articles are on file for early publication. To secure prompt appearance, articles should be sent in not less than ten days prior to the date of issue of the ensuing number. A fortnight will be better still.

New Journals.

The American Practitioner, Louisville, Kentucky, and the *Baltimore Medical Journal*, reached us too late for further notice at present. Both are excellent.